TARGETED BROWNFIELDS ASSESSMENT PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

HILLSBORO AIRPORT BROWNFIELDS PROPERTY
HILLSBORO, TEXAS

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Prepared for:

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Prepared by:

Stell Environmental Enterprises, Inc.
25 East Main Street
Elverson, PA 19520

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
ºF	degrees Fahrenheit
AOC	area of concern
bgs	below ground surface
COC	contaminants of concern
DOT	United States Department of Transportation
DPT	direct push technology
EM	Engineer Manual
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
ESI	Environmental Site Investigation
HSA	hollow stem auger
ICP	inductively coupled plasma
IDW	investigative derived waste
kg	kilogram
LEL	lower explosive limit
mg	milligram
MS	matrix spike
MSD	matrix spike duplicate
NELAP	National Environmental Laboratory Accreditation Program
PCL	protective concentration level
POE	point of exposure
PPE	personal protective equipment
PPM	parts per million
PVC	polyvinyl chloride
QA	quality assurance
QC	quality control
RBELs	risk based exposure limits
RCRA	Resource Conservation and Recovery Act
SEE	Stell Environmental Enterprises, Inc.
SOW	scope of work
SVOCs	semivolatile organic compounds
TAL	total analyte list

TAC	Texas Administrative Code
TCL	target compound list
TBA	Targeted Brownfields Assessment
TCLP	toxicity characteristic leaching procedure
Terracon	Terracon Consultants, Inc.
TPH	total petroleum hydrocarbon
TRRP	Texas Risk Reduction Program
U.S.	United States
USACE	United States Army Corps of Engineers
VFss	volatilization factor
VOCs	volatile organic compounds
Work Plan	Phase II Environmental Site Assessment Work Plan and Quality Assurance Project Plan

EXECUTIVE SUMMARY

The city of Hillsboro, TX is currently evaluating the redevelopment of the Former Hillsboro Municipal Airport (Site) for possible industrial uses. Stell Environmental Enterprises, Inc. (SEE), of Elverson, Pennsylvania, was tasked with performing a Phase II Environmental Site Assessment (ESA) for Targeted Brownfields Assessment (TBA) under United States (U.S.) Army Corps of Engineers (USACE), Fort Worth District Contract No. W9126G-06-D-0037, Delivery Order No. 0025.

This assessment was provided through the U.S. Environmental Protection Agency (EPA) Region 6 TBA program. EPA's Brownfield's Program empowers state, tribes, communities, and other stakeholders to work together to assess, cleanup, and sustainably reuse properties that have or are perceived to have the presence of a hazardous substance, pollutant, or contaminant. The EPA Region 6 tasked USACE Fort Worth District with preparing an ESA in response to a TBA assistance request from the City of Hillsboro, TX.

The subject of this Phase II ESA report, Former Hillsboro Municipal Airport, is approximately 85 acres in size and is located approximately three miles north of Hillsboro, Texas, in Hill County. The site is located at 32.052349° N latitude and 97.119045° W longitude. The site boundary to the west is highway TX 81, to the north is County Road 4231, to the east is farmland, and to the south is forested scrub brush vegetation.

A Phase I ESA was completed in June 2006 by Terracon Consultants, Inc. (Terracon) on the former Hillsboro Municipal Airport site. The ESA was conducted to identify if environmental conditions in connection with the site required further investigation.

A well plugging report for the on-site water well was completed in September 2007. The well was plugged and abandoned by Brune Pump Company.

An UST permanent removal from service letter and form were submitted by Terracon to the Texas Commission on Environmental Quality (TCEQ) on September 27, 2006. Five gasoline USTs, ranging in size from 500 gallons to 10,000 gallons, were removed on June 16, 2006. During the UST removal, Terracon performed a Limited Site Investigation at the site on July 20 and 21, 2006. The report from this investigation was never finalized and was not made available during the current investigation.

A Phase II ESA Work Plan was prepared in accordance with the Statement of Work (SOW) issued by the USACE on June 10, 2010. The Phase II ESA Work Plan consisted of the Work Plan, Sampling Plan, and Quality Assurance Project Plan as developed by SEE and approved by the USACE. The objective of the Phase II ESA was to investigate the extent of soil and groundwater contamination on-site and to determine if further action is necessary to redevelop the property for industrial use. Because this project is under the Brownfields Initiatives it is assumed that TRRP 350, March 19, 2009 is the primary regulatory guidance for this project. Under the TRRP 350 guidance there is a three part process with any site assessment; the critical protective concentration levels (PCLs) are developed, the field data are compared to the PCLs, and a response action is then implemented as needed to redevelop the property for industrial use.

In September and October 2010, SEE conducted the field work required under the Phase II ESA Work Plan. Based on the analytical results, two areas of concern (AOC) were identified that contained soil contaminants in excess of their respective Tier 2 Critical Soil PCL.

A soil removal action is recommended based on soil concentrations exceeding the risk-based Tier 2 PCLs developed. Assuming that the removal action will remove the top 1 foot of soil from AOC-1 and AOC-2, approximately 16,600 cubic yards of soil are considered contaminated and should be removed from the site. Subsurface soils, to a depth of five feet, should be excavated in the vicinity of location SB-05 to remove contamination. An alternative remedial action would be to cap shallow soil, which exceed Tier 2 Critical Soil PCLs in both AOCs to eliminate contact with contaminants, isolate the contaminated soil, and eliminate wind and surface water dispersion.

Two surface soil samples located outside of the two AOCs and within a surface drainage feature along the western edge of the airstrip had arsenic concentrations above the site specific background level and Tier 2 Critical Soil PCL. Additional sampling is recommended in these areas to delineate the horizontal and vertical extent of the arsenic contamination in surface and subsurface soils. Subsurface soils have not been collected from this area to date.

Groundwater contaminants were also identified above their respective Tier 2 Groundwater PCL in these AOCs. Although groundwater contained exceedances of the Tier 2 Critical PCLs for groundwater, redevelopment plans indicate that the site will be served by a municipal water supply. Therefore, groundwater will not be used to supply water for any future development at the site. Nevertheless, a deed restriction should be enacted to restrict current and future use of site groundwater. The removal or capping of contaminated soils would remove the source of contamination for AOC-1 and mitigate the continued release of soil contaminants to groundwater.

1.0 INTRODUCTION

The city of Hillsboro, Texas (TX) is currently evaluating the redevelopment of the former Hillsboro Municipal Airport (site) for possible industrial uses. Stell Environmental Enterprises, Inc. (SEE), of Elverson, Pennsylvania, was tasked with performing a Phase II Environmental Site Assessment (ESA) for Targeted Brownfields Assessment (TBA) under United States (U.S.) Army Corps of Engineers (USACE), Fort Worth District Contract No. W9126G-06-D-0037, Delivery Order No. 0025. A Phase II ESA work plan (WP) was prepared in accordance with the statement of work (SOW) issued by the USACE on June 10, 2010. The Phase II ESA WP consisted of the WP, sampling plan, quality assurance project plan, and site safety and health plan as developed by SEE and approved by the USACE (SEE, 2010).

Field activities associated with the WP were conducted in September and October 2010. This Phase II ESA report describes the findings of the field investigation, the conclusions from the screening-level human health risk assessment, and the evaluation of site data in comparison to site-specific screening criteria for the site. The location of the former Hillsboro Municipal Airport is presented in Figure 1.

This assessment was provided through the U.S. Environmental Protection Agency (EPA) Region 6 TBA program. EPA's Brownfield's Program empowers state, tribes, communities, and other stakeholders to work together to assess, cleanup, and sustainably reuse properties that have or are perceived to have the presence of a hazardous substance, pollutant, or contaminant. The EPA Region 6 tasked USACE Fort Worth District with preparing an ESA in response to a TBA assistance request from the City of Hillsboro, TX.

1.1 PROJECT OBJECTIVES

A Phase II ESA was conducted to investigate the extent of soil and groundwater contamination on-site and to determine if further action is necessary to redevelop the property for industrial use. Because this project is under the EPA Brownfields Initiatives it is assumed that The Texas Risk Reduction Program (TRRP) rule (30 Texas Administrative Code [TAC] 350), March 19, 2009 is the primary regulatory guidance for this project. Under the 30 TAC 350 guidance there is a three-part process for site assessment: 1) the critical protective concentration levels (PCLs) are developed, 2) the field data are compared to the PCLs, and 3) a response action is then implemented as needed to redevelop the property for industrial use.

1.2 SITE DESCRIPTION

The former Hillsboro Municipal Airport facility is approximately 85 acres in size and is located approximately three miles north of Hillsboro, TX, in Hill County. The site is located at 32.052349° N latitude and 97.119045° W longitude. The site boundary to the west is highway TX 81, to the north is County Road 4231, to the east is farmland, and to the south is forested scrub brush vegetation (Figure 1).

Currently, the site contains mowed grasslands with a few scrub brush areas around former facility building locations. A few former gravel roads leading to an old airstrip and an asphalt airstrip still exists on the property. The concrete foundations of former buildings are still present with a former office trailer building still intact on the site. There are four underground pipelines located approximately 500 ft. south of the south end of the airstrip, owned by Energy Transfer Company of Texas, which are used to transport natural gas. In general, the underground

petroleum pipeline is the jurisdiction of TCEQ only if it transports refined petroleum product. Unrefined petroleum product is the jurisdiction of the Texas Railroad Commission.

Old drainage swales that were dry at the time of the site visit traverse the property. There are two ponds, one located to the north and one to the east of the property.

Hill County has a moist, subhumid climate, with hot summers and mild winters. Temperatures range from an average low of 56 degrees Fahrenheit (°F) in January to an average high of 95°F in July and August. Rainfall averages a little more than 37 inches per year, with the highest rainfall occurring in April through June.

Surface water is the primary water supply source for Hill County and the City of Hillsboro. The City of Hillsboro supplies potable water to the surrounding developed properties. The airport property does not currently receive water service from the City of Hillsboro but will receive municipal water during development of the property.

The soils of the Hillsboro Municipal Airport project area consist of clays to silty clays. The soils are very deep and poorly drained. The Eagle Ford Formation, which consists of a very deep, poorly drained soil located in the low uplands, underlies the site. The formation consists of clay sediments that were deposited during the Cretaceous Period.

1.3 SITE BACKGROUND

The site consisted primarily of agricultural land prior to the early 1960's. A farmhouse was located on the northern portion of the site from 1943 to 1975. In the early 1960's, a small airport runway was constructed on the site. Several buildings consisting of an office, hangers, and storage buildings were constructed at the north end of the runway from the early 1960s through the 1970s. The airport operated as the Hillsboro Municipal Airport and Schronk Aero Spray, a former crop dusting operation, from the early 1960s through 1993, when the City of Hillsboro moved the Municipal Airport to a new location. Schronk Aero Spray continued operations until 2004. The site has been vacant since 2004. All of the buildings associated with the airport have been removed from the site except the former office.

1.4 PREVIOUS SITE INVESTIGATIONS

A Phase I ESA was completed in June 2006 by Terracon Consultants, Inc. (Terracon) on the former Hillsboro Municipal Airport site (Terracon, 2006). The ESA was conducted to identify if environmental conditions in connection with the site required further investigation. The Phase I ESA recommended that the following investigations be performed:

- Determine if the site has been affected by potential releases from onsite underground storage tanks (USTs).
- Determine if the site was affected by potential releases and known releases from the former on-site chemical storage and usage associated with the former Schronk Aero Spray crop dusting operation.
- Determine if the site had been affected by potential releases from the on-site septic tank.
- Discontinue use of the on-site water well and consider abandonment and closure actions so that the well cannot be used in the future. If the well was to be used, the well water should be tested by a licensed laboratory to determine if the water is potable.

A well plugging report for the on-site water well was completed in September 2007. The well was plugged and abandoned by Brune Pump Company.

An UST permanent removal from service letter and form were submitted by Terracon to the Texas Commission on Environmental Quality (TCEQ) on September 27, 2006. Five gasoline USTs, ranging in size from 500 gallons to 10,000 gallons, were removed on June 16, 2006. During the UST removal, Terracon performed a limited site investigation at the site on July 20 and 21, 2006. The report from this investigation was never finalized and was not made available during the current investigation.

2.0 FIELD ACTIVITIES

The Phase II ESA investigation was conducted during two separate field events in September 2010 and October 2010. During the September 2010 field event, the following activities occurred:

- Four temporary monitoring wells were installed.
- Two surface and shallow subsurface samples were collected from each installed well.
- One geotechnical sample was collected from each well to determine site-wide aquifer conditions.
- Thirteen soil borings were drilled with one surface and one shallow subsurface sample collected from each boring.
- Fifteen surface soil samples were collected in areas that were suspected to have contaminants.

The October 2010 field event included the following activities:

- Aquifer testing of the four newly installed monitoring wells was performed.
- Groundwater sampling of the four newly installed monitoring wells as well as the three monitoring wells installed during the 2006 Terracon investigation located on the site was conducted to determine site wide groundwater conditions.

The following sections present a detailed description of the field investigations.

2.1 SOIL SAMPLING

2.1.1 SURFACE SOIL SAMPLING

SEE collected 15 surface soil samples at EPA-designated locations by using a stainless steel hand auger or a disposable shovel. Figure 2 indicates the location of the surface soil sampling sites. The soil samples were collected at an interval of 0 to 6 inches below ground surface (bgs). A new pair of nitrile gloves was donned for each sample collected, and sampling equipment was decontaminated between each sampling activity.

Soil retrieved with the auger or shovel was placed in a stainless steel bowl and homogenized using a stainless steel or disposable trowel. Individual sample containers were filled with homogenized soil and submitted for analysis. Field samples and quality control (QC) samples were submitted to a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory compliant with the most recently published version of the Department of Defense Quality Systems Manual for chemical analysis. The collected soil samples were analyzed for the Resource Conservation and Recovery Act (RCRA) 8 metals using EPA Methods 6010B/7471A and organochlorine pesticides using EPA Method 8081B. All samples were packaged and shipped to the laboratory according to the procedures stated in the WP.

2.1.2 SUBSURFACE SOIL SAMPLING

A certified drilling contractor licensed in the state of Texas drilled 13 soil borings using direct push technology (DPT) to a depth of 5 feet bgs. The locations of the soil borings were selected by the EPA (Figure 2). Sampling was completed using a 2.5 foot long split spoon, 1.5 inches in diameter.

A boring log was recorded in the field for each soil boring to detail the subsurface lithology encountered during DPT activities (Appendix B).

Information recorded on the boring log includes the following:

- Unified Soil Classification System soil classification
- Consistency or density
- Plasticity
- Moisture Content
- Grain size
- Descriptive color and value based on the Munsell soil color chart
- Possible contamination
- Soil recovery
- Time and date boring started and finished
- Depth interval of sample collected and sample identification number
- Persons involved in drilling
- Type of drilling
- Total depth of hole

Two samples were collected from each boring location – a surface soil sample collected at 0 to 6 inches bgs and a subsurface sample collected at the bottom of the boring, approximately 4 to 5 feet bgs. Soil retrieved with the auger or shovel was placed in a stainless steel bowl and homogenized using a stainless steel or disposable trowel. Individual sample containers were filled with homogenized soil and submitted for analysis. Field samples and QC samples were submitted to a fixed-based laboratory for chemical analysis. The collected soil samples were analyzed for RCRA 8 metals and organochlorine pesticides. All samples were packaged and shipped to the laboratory according to the procedures stated in the WP.

During the drilling of the monitoring wells, as described in Section 2.1.3, a surface soil sample and a sample at a depth of five feet bgs were collected from each boring. The samples were submitted for laboratory analysis of organochlorine pesticides and RCRA 8 metals using the same methods as described in Section 2.1.2. All samples were packaged and shipped to the laboratory according to the procedures stated in the WP.

Four soil samples, one from each well location, were collected using a Shelby tube and sent to a geotechnical testing facility. The samples were analyzed for soil pH, soil texture and type, fraction of organic carbon (FOC), volumetric water content, total soil porosity, and moisture content.

Soil cuttings generated during drilling operations were containerized in drums, sampled as investigative-derived waste (IDW), and disposed of off-site at an appropriate waste facility. Details about IDW management are presented in Section 2.4.

2.1.3 MONITORING WELL CONSTRUCTION AND DEVELOPMENT

A certified drilling contractor licensed in the state of Texas drilled four monitoring well borings using hollow stem auger (HSA) methods. Boreholes were advanced through unconsolidated material using 6¼-inch inside diameter augers. In conjunction with HSA drilling, continuous split barrel sampling and standard penetration tests were conducted. Drilling continued to a depth of 5 feet below the first groundwater interval encountered. Bedrock was not encountered during drilling activities. Monitoring well design, installation, and documentation generally followed the methods outlined in Engineer Manual (EM) 1110-1-4000 (USACE, 1998).

Monitoring well locations were selected by the EPA based on the following: MW-4 is north of the existing office where an UST was removed, MW-5 is south of existing monitoring wells MW-2 and MW-3, MW-6 is 50 yards south of MW-5, and MW-7 is located at the south end of the runway to determine if there was an impact from crop dusting operations (Figure 2).

The monitoring wells were installed to a maximum depth of 38 feet bgs. The monitoring wells were constructed using flush-threaded Schedule 40, 2-inch diameter polyvinyl chloride (PVC) casing and screen and were equipped with a solid PVC bottom cap. No plastic solvents or glues were used during well construction. The monitoring wells were constructed with 0.010 slot screens that were 10 feet in length. The sand pack consisted of 45 minimum grade (mesh) size sand and was installed from the base of the boring to approximately 3 feet above the top of the screen using a tremie pipe. Approximately three feet of bentonite was placed above the sand pack as a surface seal. The remainder of the borehole to the ground surface was filled with grout using a tremie pipe.

A 3.75-inch wide protective stick-up steel casing was installed over the top of the PVC riser and extends approximately 2.5 feet above the ground surface. The protective casing, equipped with a hinged protective cap and padlock, was secured in the grout placed around the wellhead. A 3-foot by 3-foot concrete pad was constructed around each well.

Soil lithology for each monitoring well was recorded on USACE boring logs provided in Appendix B. Well installation logs are included in Appendix C.

Soil cuttings generated during drilling operations were containerized in drums, sampled as IDW, and disposed of off-site at an appropriate waste facility. Details about IDW management are presented in Section 2.4.

The newly installed wells were developed as soon as practical after well installation but not sooner than 48 hours after grouting was completed. Development was accomplished by surging the well and pumping the groundwater with a decontaminated pump. Once initiated, development proceeded until the following conditions were met:

- The well water was clear to the unaided eye.
- A minimum of three borehole volumes were removed from the well.
- Monitoring parameters stabilized to a pH within 0.1 unit, temperature within 1 °C, and specific conductance within 5 percent between four consecutive readings.

Purge water from the monitoring well development was collected, containerized, and managed as IDW as discussed in Section 2.4.

2.2 AQUIFER TESTING

Two weeks after the development of the monitor wells and prior to groundwater sampling, a falling and rising head slug test was completed at the four newly installed monitoring wells. The slug testing procedures followed those outlined in American Society for Testing and Materials (ASTM) Standard D 4044-96.

Water level measurements during the slug tests were made using an In-Situ® TROLL® pressure transducer and the Win-Situ® logging software.

The water level in the well was measured and recorded several times prior to and after deploying the pressure transducer, to confirm and document the static water level. A mechanical slug was injected below the static water level. The response to the change in water level was measured and recorded by the data logger every thirty seconds to adequately define the response. The tests were conducted until the water level recovered approximately 90%, or within 0.2 feet of the static water level. The water level in the well was manually measured and recorded near the completion of the test, to confirm that the pressure transducer was working properly. The following information, at a minimum, was recorded in the field book:

- Well name
- Screened interval
- Sand pack interval
- Total depth
- Previously recorded depth to water
- Relationship of water level to the top of the sand pack
- Boring diameter
- Casing and screen diameter
- Table showing depth to water and times measured before, during, and after the test.

2.3 GROUNDWATER SAMPLING

2.3.1 LOW-FLOW PURGING

A submersible pump equipped with a flow controller was used to purge the monitoring wells prior to sampling. The pump was placed in the zone with the assumed highest contaminant concentration along the screened interval. The pump depth for each well is recorded in the Low Flow Sampling and Data Sheets (Appendix D). The wells were purged at a rate of 450 milliliters per minute or less. Before the samples could be collected the water in the well had to come to stabilization. During the pumping of the well the pH, conductivity, turbidity, dissolved oxygen, and temperatures of discharge water were monitored with measurements being made once every five minutes. Stabilization was achieved and the well was considered to be sufficiently purged when three consecutive readings of pH were within 0.1 standard units, specific conductance was within 3 percent, turbidity was within 10%, dissolved oxygen was within 10%, and temperature was within 1 °C (Work Plan, SEE 2010). Temperature, pH, turbidity, and conductivity values obtained during well purging were recorded in low flow sampling field logs located in Appendix D.

2.3.2 GROUNDWATER SAMPLING

Sampling began once the water quality parameters had stabilized. The flow rate was not adjusted and the same pumping rate used to purge the well was maintained during sampling. The sample was collected directly from the pump used to purge the well. All sampling information was recorded in a field notebook and found in Appendix D.

During the field effort it was discovered that the wells from the previous investigation were still accessible on site. It was decided to sample both sets of wells to gain more information on the groundwater condition of the site. A total of seven monitoring wells were sampled.

One groundwater sample was collected from each monitoring well and was submitted for laboratory analysis of organochlorine pesticides using EPA method 8081B, Target Compound List (TCL) Volatile Organic Compounds (VOCs) using EPA method 8260B, and Total Petroleum Hydrocarbons (TPH) using method TX1005. All samples were packaged and shipped to the laboratory according to the procedures stated in the WP.

Monitoring well purge water was collected, containerized, and managed as IDW as discussed in Section 2.4.

2.4 INVESTIGATION DERIVED WASTE

The field investigation generated soil cuttings, monitoring well purge and decontamination water, and used personal protective equipment (PPE). Drill cuttings and drill fluid generated during the investigation activities were placed in U.S. Department of Transportation (DOT)–approved 55-gallon drums, which were stored at a designated location on-site until they were removed by an approved waste hauler. Groundwater generated during the investigation activities were placed in DOT-approved 55-gallon drums. The drums were labeled as nonhazardous waste.

Twelve IDW soil drums and six IDW water drums were disposed of off-site by CKG Services, 10615 FM 1484, Conroe, TX. Soil and wastewater samples were collected as per the work plan (SEE, 2010) to determine the waste management strategies. The IDW was disposed of as Class 1-Non-hazardous waste. The used PPE was collected, bagged, and disposed of in a municipal trash dumpster.

2.5 QUALITY CONTROL

Four types of quality assurance/quality control (QA/QC) samples were collected during this investigation: equipment rinse blanks, trip blanks, duplicate samples, and matrix spike and matrix spike duplicate (MS/MSD) samples.

Equipment rinse blanks were collected to evaluate the decontamination procedures used by field personnel and to ensure that no cross contamination occurred during the field activities. Equipment rinse blanks were collected at a frequency of one sample per day per matrix sampling effort. Equipment rinse blanks were analyzed for the same parameters as the associated environmental samples.

Trip blanks were collected to ensure VOCs were not introduced to the sample bottles during transport. Trip blanks were collected at a frequency of one sample per cooler of samples to be analyzed for VOCs. Trip blanks were analyzed for VOCs.

Duplicate samples were collected to evaluate the reproducibility of the field sampling and laboratory analysis. One duplicate sample was collected for every ten environmental samples. Duplicate samples were analyzed for the same parameters as the associated environmental samples.

MS/MSD samples were analyzed at a rate of one pair per 20 or fewer investigation soil and groundwater samples. These samples were identified clearly as such to the analytical laboratory and were analyzed for the same parameters as the associated environmental samples (Work Plan, SEE 2010).

2.6 SURVEYING

Upon completion of the soil sampling and monitoring well installation, the location of the center of the drilled hole was surveyed by a licensed surveyor, to determine northing, easting, and top of ground elevation. The three wells from a previous investigation on the site and a monitoring well located on the property adjacent to the site were also surveyed. The accuracy of the northing and easting was within 1.0 foot for the soil borings. The accuracy of the northing and easting for the monitoring wells was within 0.1 foot. The elevation of the ground surface, top of casing, and top of pad for the monitoring wells was determined to within an accuracy of 0.01 feet.

3.0 DEVELOPMENT OF TIER 2 PCLS

3.1 INTRODUCTION

According to TCEQ (2005), a protective concentration level (PCL) is defined as follows:

> *" A PCL is the regulatory standard for a concentration of a COC that must be achieved in the source medium (e.g., soil, groundwater, sediment) in order to protect a receptor at the point(s) of exposure to that COC. A PCL can be thought of as the "cleanup level." PCLs are set by first establishing the health protective level that must be met at the point of exposure, referred to as the risk-based exposure limit (RBEL), considering the toxicity of the COC, exposure dose of the COC, and acceptable risk and hazard levels. Then if the source area and point of exposure are in different locations within an environmental medium or within different environmental media, the concentration that must be met in the source area (PCL) is back-calculated considering the mobility of the COC in the environment."*

It was assumed that TRPP 350, March 19, 2009 was the primary regulatory guidance for this project as this applies to sites falling under Chapter 333, Brownfields Initiatives. Note that if there are more stringent rules, use of TRPP does not eliminate the need to comply with them. TRPP 350 controls the assessment and any actions taken in response to a release of contaminants of concern (COCs). This process involves three steps:

1. Critical protective concentration levels (PCLs) are developed. These are the lowest of all applicable human health and ecological PCLs for a COC in a given environmental medium.
2. Data are compared to PCLs.
3. A response action is then implemented as needed.

Risk based exposure limits (RBELs) for each of the exposure pathways listed in Table 1 were evaluated according to §350.71(c) to obtain the PCLs.

The intended use of the site is commercial/industrial. Thus, the nearest point of exposure (POE) according to TCEQ (RG-366/TRRP-21) for hypothetical future residents is offsite (Figure 1), and an institutional control must be established in accordance with TRRP §350.111 before TCEQ can approve the response action completion report (TCEQ 2009a). POEs for each Tier I and II PCL, consistent with TCEQ (2009a), are shown in Table 2.

3.2 METHODS

According to TCEQ (2010), Tier 2 is a risk-based analysis by which site-specific PCLs for complete or reasonably anticipated to be completed exposure pathways are derived that utilizes site-specific exposure factors, and/or affected property parameters and Tier 1 equations. Tier 2 PCLs may also include lateral transport considerations.

To calculate the Tier 2 PCLs, the RBELs appropriate for the type of COC, exposure pathway, receptor, and land use provided in TRRP §350.74 are used, in conjunction with any PCL equations provided by the executive director in guidance, in addition to the Tier 1 PCL equations as shown in the figure in subsection TRPP 350.75(b)(1). The Tier 1 default affected property parameters, or appropriately collected and representative site-specific affected property parameters are applied (unless there is an entry of "No" in the column titled "Change To Tier 1 Default Allowed?") in the figure shown in subsection TRRP 350.75(b)(1)).

The new data were combined with the old data to allow statistical evaluation as necessary. Information in this database format can be compared to any future data gathered. The data were compared to Tier I PCLs. Then, Tier 2 PCL calculations were conducted for groundwater, surface and subsurface soils based on analytical results obtained. It was assumed for this effort there is no surface water or sediment onsite; although there is a creek to the south - southeast (Phase I ESA report). Groundwater flow is to the south-southwest, so this creek could be a potential exposure point if site-related contamininants move with groundwater.

A Tier I ecological exclusion checklist was completed per TCEQ guidance (TCEQ 2005) and is shown as Appendix G. The site failed the ecological exclusion checklist for several reasons, thus indicating ecological PCLs are required as a component of the evaluation.

The maximum detected concentration (or ½ the maximum reporting limit as proxy [TRPP §350.51 (n)) was compared to the Tier 1 media-specific PCLs for residential and industrial use. Tier 1 is based on default exposure factors and affected property parameters in the applicable PCL equations provided in the TRRP guidance and assumes exposure occurs at, above, or below the source area (i.e., no lateral transport). All current analyte groups contained one or more chemicals that failed Tier 1 previously. Tier 1 values are updated each March.

However, any analytes that failed this initial screen underwent additional evaluation. TRPP §350.79, Subchapter D, Development of Protective Concentration Levels §350.71-350.79, March 2009 (TCEQ 2009b), allows use of statistical hypothesis testing to determine if the COC concentrations exceed the critical PCL. A UCL95 was applied instead of the maximum to attempt to reduce the exposure point concentration.

According to TCEQ, Chapter 350, the Texas Risk Reduction Program (TRPP), virtually none of the default exposure parameters for residential use can be modified (Chapter 350d, page 34-35) except the dermal absorption fraction and gastrointestinal fraction, and also the relative bioavailability factor for arsenic. There were no technically defensible reasons to modify the exposure parameters underlying the RBELs, and thus all RBELs were left at default values. The future use will be commercial/industrial, therefore, residential use Tier 2 PCLs are not required onsite. For the worker scenario,

- The exposure duration and frequency can be modified if justified, as can the dermal absorption fraction and gastrointestinal fraction, and also the relative bioavailability factor for arsenic. There were no technically defensible reasons to modify the underlying exposure factors for the RBELs, and thus all RBELs were retained at default values.
- Dermal contact does not need to be included as a pathway for VOCs and was removed from the combined PCL(§350.74(c)),
- The ABS_{GI} was adjusted using EPA Region 3, 6, 9 data from the Regional Screening Levels Tables (EPA 2010a) if they differed from TCEQ guidance (§350.74 (j)(1)(A)).
    - The EPA ABS_{GI} value was 1, which was virtually identical to the TCEQ values of 0.97 for the α and δ-BHC pesticides. These were left at the TCEQ standard values.
    - The EPA ABS_{GI} for β-BHC was 1, compared to the TCEQ value of 0.91. Therefore, the ABS_{GI} was retained at the TCEQ standard value.

- For selenium, the EPA value was 1, compared to the TCEQ value of 0.5 The dermal value could be adjusted with TCEQ concurrence. However, the Tier 1 PCL for dermal contact is 100 times higher than the ingestion PCL, and therefore modifying this will have little impact on the overall Total Soil Combination PCL. The ABS_{GI} was therefore left at the TCEQ default.

3.2.1 SOILS

Contaminants can volatilize from soils. This is represented in the Tier 2 PCLs by VF_{ss} as follows:

Volatilization Factor: VF_{ss}

Where VF_{ss} is the smaller of the two following VF_{ss} values

$$VF_{ss}\left[\frac{mg/m^3-air}{mg/kg-Soil}\right]=\frac{2\rho_b D_A}{(Q/C)\left[3.14 D_A{}^{\tau}\right]^{\frac{1}{2}}}\cdot\left(\frac{10^4 cm^2}{m^2}\right)$$

$$D_A=\left[\frac{\theta_{as}^{3.33} D^{air} H' + \theta_{ws}^{3.33} D^{wat}}{\left[\theta_{ws} + K_d \rho_b + \theta_{as} H'\right]\theta_T^2}\right]$$

or

$$VF_{ss}\left[\frac{mg/m^3-air}{mg/kg-soil}\right]=\frac{\rho_b d_s}{(Q/C)\tau}\cdot\left(\frac{10^4 cm^2}{m^2}\right)$$

For leaching from soil to groundwater, the following equations from the Tier 2 PCL equations were applied:

Tier 2 Soil-to-Groundwater PCL Equation

$$^{GW}\text{Soil} = \frac{(\text{Groundwater PCL}^{*}) \cdot \text{LDF}}{K_{sw}} \cdot \frac{L_2}{L_1}$$

*Critical groundwater PCL as determined in accordance with §350.78.

$$K_{sw}\left[\frac{(\text{mg / L - } H_2O)}{(\text{mg / kg - soil})}\right] = \frac{\rho_b}{\theta_{ws} + K_d \rho_b + H' \theta_{as}}$$

$$\text{LDF [dimensionless]} = 1 + \frac{U_{gw}\, \delta_{gw}}{I_f\, W_s}$$

$$\delta_{gw}\,[\text{m}] = (2\,\alpha_v\, W_s)^{0.5} + b_{gw}\left[1 - \exp\left(\frac{-I_f\, W_s}{U_{gw}\, b_{gw}}\right)\right]$$

The soil PCLs for the inhalation, dermal contact (derm) and ingestion (ing) exposure pathways are calculated with the following equations (TRRP 350d, pg. 58):

Soil PCL Equation: $^{Air}Soil_{Inh-VP}$

Exposure Pathway Description: Inhalation of surface soil volatiles and particulates
Source Medium: Surface soils
Exposure Medium: Air

$$^{Air}Soil_{Inh-VP} = \frac{^{Air}RBEL_{Inh}}{VF_{ss} + PEF}$$ *(See Eq. RBEL-1, Figure: 30 TAC §350.74(a))*

Soil PCL Equation: $^{Soil}Soil_{Derm}$

Exposure Pathway Description: Dermal contact with surface soil
Source Medium: Surface soil
Exposure Medium: Surface soil

$$^{Soil}Soil_{Derm} = {}^{Soil}RBEL_{Derm}$$ *(See Eq. RBEL-2, Figure: 30 TAC §350.74(a))*

Exposure Pathway Description: Ingestion of surface soil
Source Medium: Surface soil
Exposure Medium: Surface soil

$$^{Soil}Soil_{Ing} = {}^{Soil}RBEL_{Ing}$$ *(See Eq. RBEL – 3, Figure: 30 TAC §350.74(a))*

The pathway-specific PCLs are combined to provide an overall total PCL as follows (TRRP 350d)

Soil PCL Equation: $^{Tot}Soil_{Comb}$

Exposure Pathway Description: Combined equation for ingestion of surface soil + dermal contact with surface soil + inhalation of surface soil volatiles and particulates + consumption of garden vegetables grown in contaminated surface soil
Source Medium: Surface soils
Exposure Medium: Surface soil and air (and vegetables for residential land use only).

Residential

$$^{Tot}Soil_{Comb} = \frac{1}{[\frac{1}{^{Air}Soil_{Inh-VP}}]+[\frac{1}{^{Soil}Soil_{Derm}}]+[\frac{1}{^{Soil}Soil_{Ing}}]+\left[\left(\frac{1}{^{Veg}Soil_{Ing-Inorg}}\right) or \left(\frac{1}{^{Veg}Soil_{Ing-Org}}\right)\right]}$$

Commercial/Industrial Worker

$$^{Tot}Soil_{Comb} = \frac{1}{\left(\frac{1}{^{Air}Soil_{Inh-VP}}\right)+\left(\frac{1}{^{Soil}Soil_{Derm}}\right)+\left(\frac{1}{^{Soil}Soil_{Ing}}\right)}$$

3.2.2 GROUNDWATER

Classification of groundwater is defined in TRPP §350.52. Class 2 units are where there is an existing well within ½ mile of the site that is used for consumption, agricultural purposes, or any other purpose that could result in exposure, or any unit with TDS< 10,000 mg/L with a sustainable pumping rate of >150 gal/d. Groundwater is therefore considered to be Class 2 at this time. Contamination appears localized to the northwest region. This is expected since most of the contaminants of potential concern are not mobile in groundwater. The furthest downgradient well was not impacted. No lateral transport modeling was performed, as most COPCs had primary MCLs and thus adjustment is not allowed under TRRP. The Tier 2 PCL $^{GW}GW_{Ing}$ for ingestion of groundwater is the groundwater RBEL ($^{GW}RBEL_{ing}$). It cannot be changed according to TCEQ guidance. The Tier 1 $^{GW}GW_{Ing}$ is thus recommended as the PCL.

The Tier 2 PCL for leaching from soil to groundwater ($^{GW}Soil$ or $^{GW}Soil_{Ing}$ in the TCEQ guidance) from TRRP 350d, where the $^{GW}Soil$ is further multiplied by a factor L2/L1 (thickness of soil contamination/depth to groundwater) for the Tier 2 PCL (TCEQ 2010; page 22) is as follows:

Soil-to-Groundwater PCL Equation: $^{GW}Soil$

Exposure Pathway Description: Soil leachate to groundwater
Source Medium: Surface and subsurface soils
Exposure Medium: Groundwater

$$^{GW}Soil = \frac{\left(Groundwater\,PCL^{*}\right)\cdot LDF}{K_{SW}}$$

$$K_{SW}\left[\frac{(mg/L - H_2O)}{(mg/kg - soil)}\right] = \frac{\rho_b}{\theta_{ws} + K_d\rho_b + H'\theta_{as}}$$

*Critical groundwater PCL as determined in accordance with §350.78 of this title (relating to Determination of Critical PCLs) or attenuation action level as determined in accordance with §350.33(f)(4)(D) of this title (relating to Remedy Standard B).

To obtain the Tier 2 PCL for volatilization from groundwater to ambient air, the following Tier 1 PCL equations were applied:

Groundwater Volatilization PCL Equation: $^{Air}GW_{Inh\text{-}V}$

Exposure Pathway Description: Inhalation of volatiles from class 1, 2, or 3 groundwater
Source Medium: Class 1, 2, or 3 groundwater
Exposure Medium: Outdoor air

$$^{Air}GW_{Inh\text{-}V} = \frac{^{Air}RBEL_{Inh}\,(See\ Eq.\ RBEL\text{-}1,\ Figure:\ 30\ TAC\ §350.74(a))}{VF_{Wamb}}$$

$$VF_{wamb}\left[\frac{mg/m^3 - air}{mg/L - H_2O}\right] = \frac{H'}{1 + \left[\frac{U_{air}\delta_{air}L_{gw}}{W_g D_{ws}^{eff}}\right]} \bullet \left[10^3\frac{L}{m^3}\right]$$

$$D_{ws}^{eff}\left[\frac{cm^2}{s}\right] = (h_{cap} + h_v)\left[\frac{h_{cap}}{D_{cap}^{eff}} + \frac{h_v}{D_s^{eff}}\right]^{-1}$$

$$D_{cap}^{eff}\left[\frac{cm^2}{s}\right] = D^{air}\frac{\theta_{acap}^{3.33}}{\theta_T^2} + \left[\frac{D^{wat}}{H'}\right]\left[\frac{\theta_{wcap}^{3.33}}{\theta_T^2}\right]$$

$$D_s^{eff}\left[\frac{cm^2}{s}\right] = D^{air}\frac{\theta_{as}^{3.33}}{\theta_T^2} + \left[\frac{D^{wat}}{H'}\right]\left[\frac{\theta_{ws}^{3.33}}{\theta_T^2}\right]$$

3.3 RESULTS

Table 3 shows the default Tier 1 values obtained from TCEQ (2010). These were used to evaluate the site data (Table 4). Data in this table include 2006 and 2010 samples and present the number of samples, minimum and maximum detected values, the maximum quantitation limit if available (missing from 2006 data), and the number of samples that exceeded either the residential or commercial critical PCLs from Table 3.

Table 5 presents a summary of the results of the Tier 1 screening evaluation. The following analytes exceeded the residential and commercial Tier 1 PCLs for soil:

1. Arsenic
2. Barium
3. Cadmium
4. DDE
5. DDT
6. Dieldrin
7. Endrin
8. Hexachlorocyclohexane, alpha (alpha-BHC)
9. Hexachlorocyclohexane, beta (beta-BHC)
10. Hexachlorocyclohexane, delta (delta-BHC)
11. Hexachlorocyclohexane, gamma (lindane; gamma-BHC)
12. Lead
13. Mercury
14. Selenium
15. Toxaphene

Silver exceeded the residential, but not the commercial industrial, Tier 1 PCL.

The following analytes exceeded the residential and commercial Tier 1 PCLs for groundwater:

1. Dieldrin
2. Endrin
3. Hexachlorocyclohexane, beta (beta-BHC)
4. Toxaphene

Endrin ketone exceeded the residential, but not the commercial industrial, Tier 1 groundwater PCL.

The analytes that failed the Tier 1 screen are shown in Table 6, with the comparison of maxima and upper 95th confidence limits (UCL 95) to the critical Tier 1 PCLs. The UCL95 values were calculated with the EPA ProUCL software (EPA 2010b). Only those analytes that exceeded Tier 1 PCLs with a UCL95 used as the exposure point concentration (EPC) were carried forward into a Tier 2 analysis. Endrin and endrin ketone are among the analytes that drop out at this point (Table 3-6).

The Tier 2 PCLs were estimated by methods described above in Section 3.2. Table 7 presents the chemical-specific physical and chemical parameters for each analyte that failed the Tier 1 PCL comparison. Table 8 presents the site-specific parameters incorporated into the Tier 2 PCL development. Table 9 presents the risk-based exposure limits (RBELs) for residents and commercial/industrial workers. The volatilization factors used in the Tier 2 PCLs are reported in Table 10. The Tier 2 PCLs for the commercial/industrial worker scenario are shown in Table 11, and the residential Tier 2 PCLs are presented in Table 12.

3.4 CONCLUSIONS

According to TCEQ, if a site is not excluded under a Tier 1 evaluation, the person must further evaluate the site for ecological risk and possibly establish ecological PCL's under the Tier 2 process. Evaluation of ecological risk was not a component of this task. The future use of the site is industrial/commercial, which would reduce its ecological value.

The Tier 2 PCLs are slightly higher than the Tier 1 PCLs, ranging from no different for arsenic for the resident, to approximately a factor of 2 for DDT. TCE is higher by a factor of 8. This is because the bulk of the analytes are not volatiles, and the greatest potential for site –related changes is in the transport modeling. There is no transport modeling in the ingestion and dermal contact pathways because exposure is presumed to occur at the source.

The presence of surface water to the southeast of the site indicates that sampling should be performed and this potential exposure pathway addressed. However, groundwater does not appear to be discharging to this stream based on the sampling conducted to date.

Analytes that exceed the Tier 2 PCLs are considered to be contaminants of concern (COCs). There are six analytes that are COCs for soils. These are arsenic, DDT, dieldrin, lead, mercury, and toxaphene. Dieldrin, beta BHC, toxaphene, and trichloroethylene are the COCs for groundwater.

4.0 FIELD INVESTIGATION RESULTS

4.1 FIELD OBSERVATIONS

Soil characterization performed during soil boring revealed that the surface soil was generally composed of a silty clay. The silty clay layer extended to a depth of approximately 20 feet bgs where a very fine, hard, dry, shale layer was encountered from 20 to 30 feet bgs (Figures 4 and 5). Groundwater wells were installed above the shale layer or at the interface of the silty clay and shale layers.

A slight change in topography was observed between the north and south ends of the runway. The ground surface generally sloped downward towards the south end of the runway.

PID readings collected during soil and groundwater sampling were consistent with background levels. However, an elevated PID reading of 1.0 parts per million [ppm] was encountered at location SB-10.

4.2 GROUNDWATER ELEVATION AND FLOW DIRECTION

A round of groundwater level measurements was collected on October 18, 2010 at the seven monitoring wells located on-site and one well located on the adjacent property that was installed during a Terracon investigation of the property in 2007 (Terracon, 2007). The water level measurements were collected to generate a potentiometric map which would infer groundwater flow direction. Groundwater was found to flow to the south, following the topography of the site. The flow continues toward an intermittent stream located beyond the southern boundary of the site (Figure 6).

4.3 SOIL SAMPLE ANALYTICAL RESULTS

The detected soil concentrations from the 2006 Terracon investigation and the 2010 SEE investigation were compared to the TRRP Tier 1 media-specific PCLs for residential and industrial use. If an analyte failed the initial Tier 1 comparison, Tier 2 PCLs were developed, including Tier 2 NAFs as allowed by TRRP guidance, for all identified analytes that failed the initial Tier 1 comparison. The site-specific Tier 2 PCLs are considered the Critical PCLs, which were then used to screen the data. If the calculated Tier 2 PCLs were lower than the state background levels the state background levels were used to screen the data.

Table 14 presents the detections of contaminants in soils and the exceedances of their respective Tier 2 Critical PCLs. A total of 70 soil samples were collected during both investigations and analyzed for organochlorine pesticides and RCRA 8 metals. Sixteen organochlorine pesticides were detected in 70 of the samples. Alpha-BHC and gamma-BHC was identified as exceedances of the Tier 2 Critical Soil PCL in two surface soil samples (MW-03 and SS-12). Beta-BHC and delta-BHC were identified as exceedances of the Tier 2 Critical Soil PCL in one surface soil sample (SS-12). Dieldrin was found to exceed the Tier 2 Critical Soil PCL in five surface soil samples (SB-04, SS-6, SS-12, SS-13, and SS-20) and one subsurface soil sample (SB-5). Toxaphene exceeded the Tier 2 Critical Soil PCL in eight surface soil samples (SB-04, SS-3, SS-6, SS-12, SS-13, SS-15, SS-18, and SS-20) and one subsurface soil sample (SB-05).

The RCRA 8 metals were detected in all of the soil samples collected at the site. Arsenic exceeded the Tier 2 Critical Soil PCL at 34 soil boring locations. Based on a limited site investigation completed by Terracon in 2007 for the tract of land adjacent to the eastern edge of the site, a background level for arsenic was calculated as 28.9 mg/kg (Terracon, 2007). The

background level was determined to be above the calculated Tier 2 of 14.6 mg/kg Critical Soil PCL for arsenic. Therefore concentrations of arsenic below the background level of 28.9 mg/kg are considered within site background levels regardless if they exceeded the Tier 2 Critical Soil PCL. Despite the high background level of arsenic for the site, 23 soil samples contained arsenic levels higher than the background concentrations for the area. Lead exceeded the Tier 2 Critical Soil PCL in one surface soil sample (SS-12). Mercury exceeded the Tier 2 Critical Soil PCL in nine surface soil samples (SB-04, SB-05, SS-3, SS-6, SS-12, SS-13, SS-14, SS-18, and SS-20) and one subsurface soil sample (SB-05). Cadmium exceeded the Tier 2 Critical Soil PCL in six surface soil samples (SB-04, SB-05, SS-12, SS-13, SS-18, and SS-20) and one subsurface soil sample (SB-05). Barium exceeded the Tier 2 Critical Soil PCL in three surface soil samples (SS-14, SS-27, and SS-30). Selenium exceeded the Tier 2 Critical Soil PCL in one surface soil samples (SB-05).

Figures 7 and 8 depict the locations that exceeded the Tier 2 Critical Soil PCL for surface soil samples and subsurface soil borings respectively.

4.4 GROUNDWATER SAMPLES ANALYTICAL RESULTS

The detected groundwater concentrations from the 2006 Terracon investigation and the 2010 SEE investigation were compared to the TRRP Tier 1 media-specific PCLs for residential and industrial use. If an analyte failed the initial Tier 1 comparison, Tier 2 PCLs were developed, including Tier 2 NAFs allowed by TRRP guidance, for all identified analytes that failed the initial Tier 1 comparison. The site-specific Tier 2 PCLs are considered the Critical PCLs, which were then used to screen the data. For groundwater data, contaminant levels were screened against the Tier 2 Critical Groundwater PCLs that were generated.

Table 15 presents the groundwater contaminant detections and the exceedances of their respective Tier 2 Critical PCLs. Eight VOCs were detected in five of the monitoring wells. Trichloroethene was identified in excess of the Tier 2 Critical Groundwater PCL at MW-3 during the 2006 sampling event. Data from the 2010 sampling event indicated that trichloroethene was detected but the concentration was below the Tier 2 Critical Groundwater PCL.

TPH was detected in three monitoring wells below the Tier 2 Critical Groundwater PCL.

Sixteen pesticide concentrations were detected in five of the monitoring wells sampled. Beta-BHC exceeded the Tier 2 Critical Groundwater PCL at MW-2 during both sampling events. Dieldrin exceeded the Tier 2 Critical Groundwater PCL at MW-2 during the 2010 sampling event. Toxaphene exceeded the Tier 2 Critical Groundwater PCL in MW-2 and MW-3 in both sampling events and exceeded in MW-3 during the only 2006 sampling event.

The RCRA 8 metals were detected in three monitoring wells from the initial sampling event. Metals were not sampled for during the 2010 sampling event. None of the detections from the 2006 sampling event exceeded the Tier 2 Critical Groundwater PCLs.

4.5 DATA VALIDATION RESULTS

Data validation constitutes an independent QA review which was completed on each of the reported laboratory results as well as data validation performed on 10% of the data collected. Overall, 100% of the data were considered valid as reported or with estimation. It was recommended that the reported analytical results be used only with the qualifying statements presented.

Results of the data validation are presented in Appendix F and the appropriate qualifiers have been added to the laboratory data tables. Qualified data should be considered estimated, as discussed previously in this report. Data that were not qualified should be considered quantitatively and qualitatively valid as reported based on the laboratory deliverables provided. Surface soil, subsurface soil, and groundwater exceedances of Tier 2 PCLs are presented on Figures 7 through 9, respectively.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Two AOCs were identified that contained soil contaminants in excess of their respective Tier 2 Critical Soil PCL. Groundwater contaminants were also identified above their respective Tier 2 Groundwater PCL in AOC 1. Surface soil, subsurface soil, and groundwater exceedances of Tier 2 PCLs are presented on Figures 7 through 9, respectively. The two areas, AOC-1 and AOC-2, are also presented on Figures 7 and 8 for site soils. The two AOCs were not presented on Figure 9 for groundwater because insufficient data existed to construct a groundwater plume map. AOC-1, with an approximate area of 376,000 square feet, was labeled as the area around the former building complex on the north end of the runway. AOC-2, with an approximate area of 72,000 square feet, was identified at the south end of the runway.

5.1 SOIL

The primary constituents of concern were OCPs, which are very stable in the environment, and rendering natural attenuation and biodegradation processes to be of limited effectiveness. OCPs are also highly bioaccumulative in birds and mammals and highly toxic to ecological receptors. Because OCPs are not mobile in water, the primary transport mechanisms were identified as particulate movement in surface water runoff, dust, or mobile biota. In addition to OCPs, metal concentrations were identified above the screening criteria. Because OCPs and metals exceeded their respective TCEQ Tier 1 and Tier 2 PCLs, further action may be required at the site as required by TRRP guidance. A soil removal action is recommended based on soil concentrations exceeding the risk-based Tier 2 Critical Soil PCLs developed. Assuming that the removal action will remove the top one foot of soil from AOC-1 and AOC-2 (based on surface soil samples shown in Figure 7), approximately 16,600 cubic yards of soil are considered contaminated and should be removed from the site. Subsurface soils, to a depth of five feet, should be excavated in the vicinity of location SB-05 to remove contamination. An alternative remedial action would be to cap shallow soil, which exceed Tier 2 Critical Soil PCLs in both AOCs to eliminate contact with contaminants, isolate the contaminated soil, and eliminate wind and surface water dispersion.

Two surface soil samples located outside of the two AOCs and within a surface drainage feature along the western edge of the airstrip contained arsenic concentrations above the site specific background level and Tier 2 Critical Soil PCL. One surface soil sample also located outside of the two AOCs and within a surface drainage feature along the eastern edge of the airstrip contained arsenic concentrations above the site specific background level and Tier 2 Critical Soil PCL. Additional sampling is recommended in these areas to delineate the horizontal and vertical extent of the arsenic and barium contamination in surface and subsurface soils. Subsurface soils have not been collected from this area to date.

5.2 GROUNDWATER

Groundwater samples collected from three monitoring wells within AOC-1 contained concentrations of OCPs and TCE that exceeded their respective Critical PCLs. Although groundwater contained exceedances of the Tier 2 Critical PCLs for groundwater, redevelopment plans indicate that the site will be served by a municipal water supply. Therefore, groundwater will not be used to supply water for any future development at the site. Nevertheless, a deed restriction may be necessary to restrict current and future use of site groundwater.

Remediation of the groundwater may be technically impracticable because of the low concentrations of TCE, toxaphene, beta-BHC, and dieldrin. TCE concentrations have already decreased in MW-3 below the Tier 2 Critical PLC from 2006 to 2010 by natural attenuation. Because OCPs are typically considered immobile in groundwater, monitored natural attenuation or long-term monitoring would be an appropriate remedial alternative to consider for site groundwater in addition to the deed restriction. The removal or capping of contaminated soils would remove the source of contamination for AOC-1 and mitigate the continued release of soil contaminants to groundwater.

6.0 REFERENCES

Stell Environmental Enterprises, Inc. 2010. Phase II Environmental Site Assessment Work Plan and Site Safety and Health Plan, Hillsboro Airport Brownfields Property, Hillsboro, Texas.

Terracon. 2006. Phase I Environmental Site Assessment Airfield Tract, Hillsboro, Hill County, Texas.

------. 2007. Limited Site Investigation, Ingraham Tract, Hillsboro, Texas.

Texas Commission on Environmental Quality (TCEQ). 2005. TIERED DEVELOPMENT OF HUMAN HEALTH PCLS. RG-366/TRRP-22. January 2005

------. 2009a. Human Health Points of Exposure. RG-366/TRRP-21. Revised March 2009

------. 2009b. Texas Risk Reduction Program Subchapter D. Development of Protective Concentration Levels. §§350.71 - 350.79 Effective March 19, 2009. Current as of 12/1/2010.

------. 2009c. Tier I PCL Tables. TCEQ Regulatory Guidance. March 2009. 10 pg.

------. 2010. Current PCL Tables 1-10 in Excel. March 2010.

Texas Risk Reduction Program, March 2010. TX TRRP Table 1, Tier 1 Residential Soil PCLs for 30 Acre Source Area: Total Soil Combined.

------. 2010. TX TRRP Table 3, Tier 1 Residential Groundwater PCLs: $^{GW}GW_{Ing}$.

United States Army Corps of Engineers (USACE). 1998. EM 1110-14000, Monitoring Well Design, Installation, and Documentation at Hazardous Toxic and Radioactive Waste Sites.

United States Environmental Protection Agency (EPA). 2010. National Functional Guidelines for Inorganic Data Review.

------. 2007. EPA SW-846**:** Test Methods for Evaluating Solid Waste**,** Physical/Chemical Methods

------. 1999. National Functional Guidelines for Organic Data Review.

------. 2010a. Mid-Atlantic Risk Assessment. Regional Screening Levels Tables. http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

------. 2010b. ProUCL Version 4.00.05. User Guide (Draft). EPA/600/R-07/038. May 2010.

FIGURES

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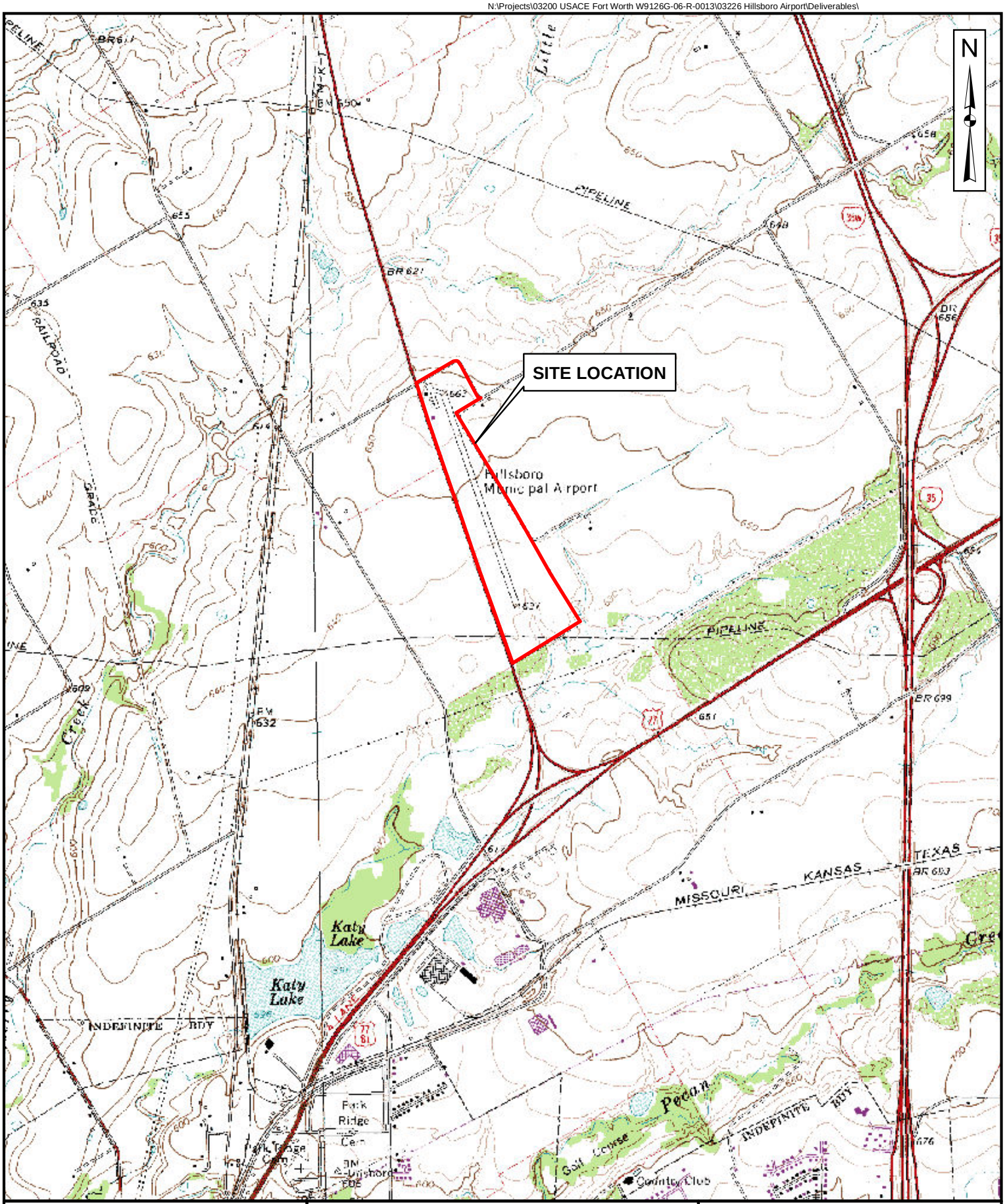

HILLSBORO EAST & WEST QUADRANGLE

SCALE: 1 inch = 2,000 feet

0 1,000 2,000 3,000 4,000 Feet

FIGURE 1
SITE LOCATION

Hillsboro Airport Brownfields Property
Targeted Brownfields Assessment Phase II ESA
HILLSBORO, TEXAS

Stellee Environmental Enterprises, Inc.
...The Difference!
25 East Main Street
Elverson, PA 19520
(610) 286-0100
www.stellee.com

Completed by: JDD on 12/1/2010 Source: USGS Seamless Server, 2010. Digital Raster Graphic 24K Template, Hillsboro East & Hillsboro West Quadrangles

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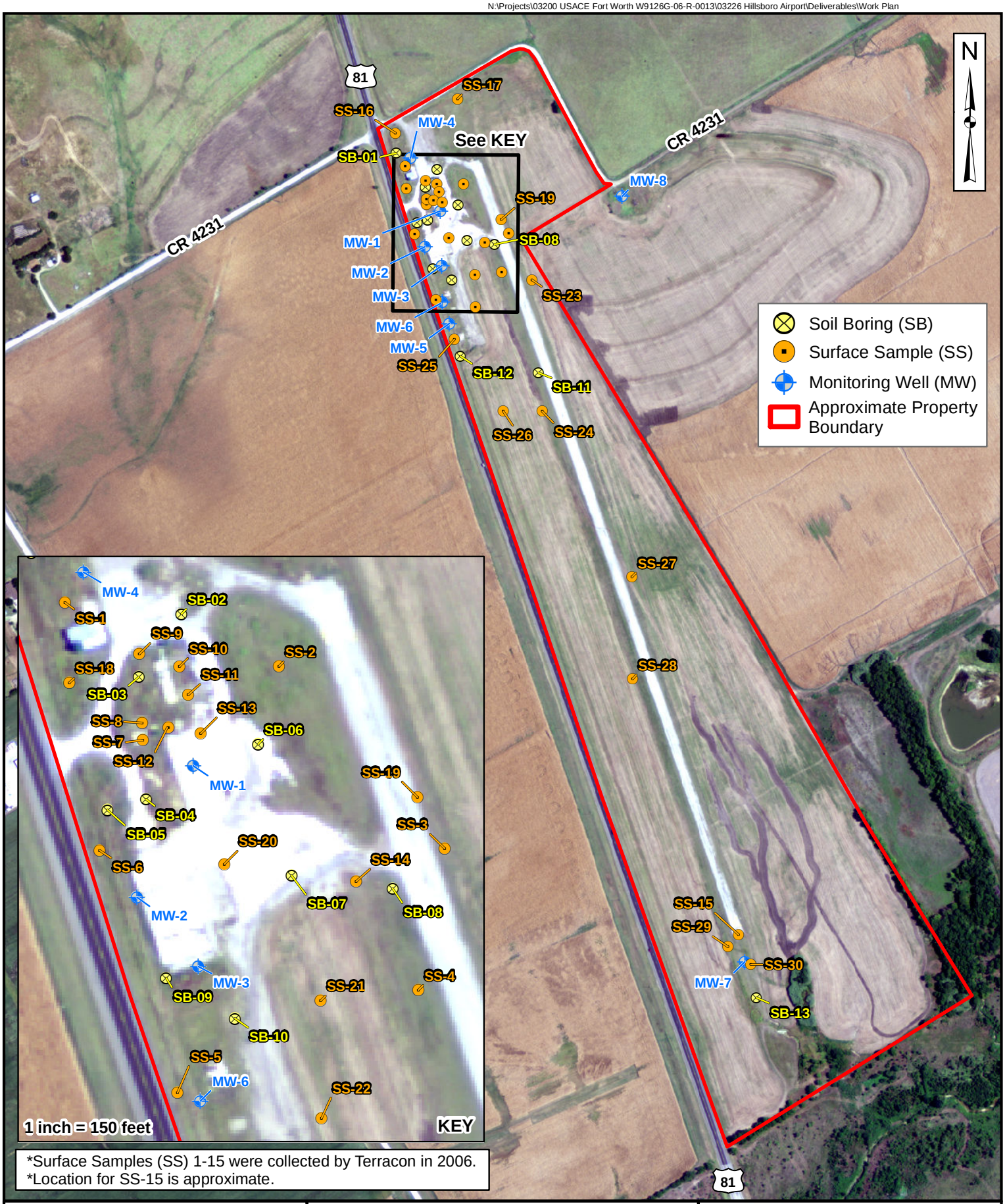

*Surface Samples (SS) 1-15 were collected by Terracon in 2006.
*Location for SS-15 is approximate.

SCALE: 1 inch = 550 feet

0 250 500 750 1,000 Feet

FIGURE 2
Sample Locations
Hillsboro Airport Brownfields Property
Targeted Brownfields Assessment Phase II ESA
HILLSBORO, TEXAS

Stellee Environmental Enterprises, Inc.
...The Difference!
25 East Main Street
Elverson, PA 19520
(610) 286-0100
www.stellee.com

Completed by: JDD on 11/30/2010 Source: USGS Seamless Server, 2010. National Agriculture Imagery Program (NAIP) Orthoimagery for Zone 14 Texas State (2008)

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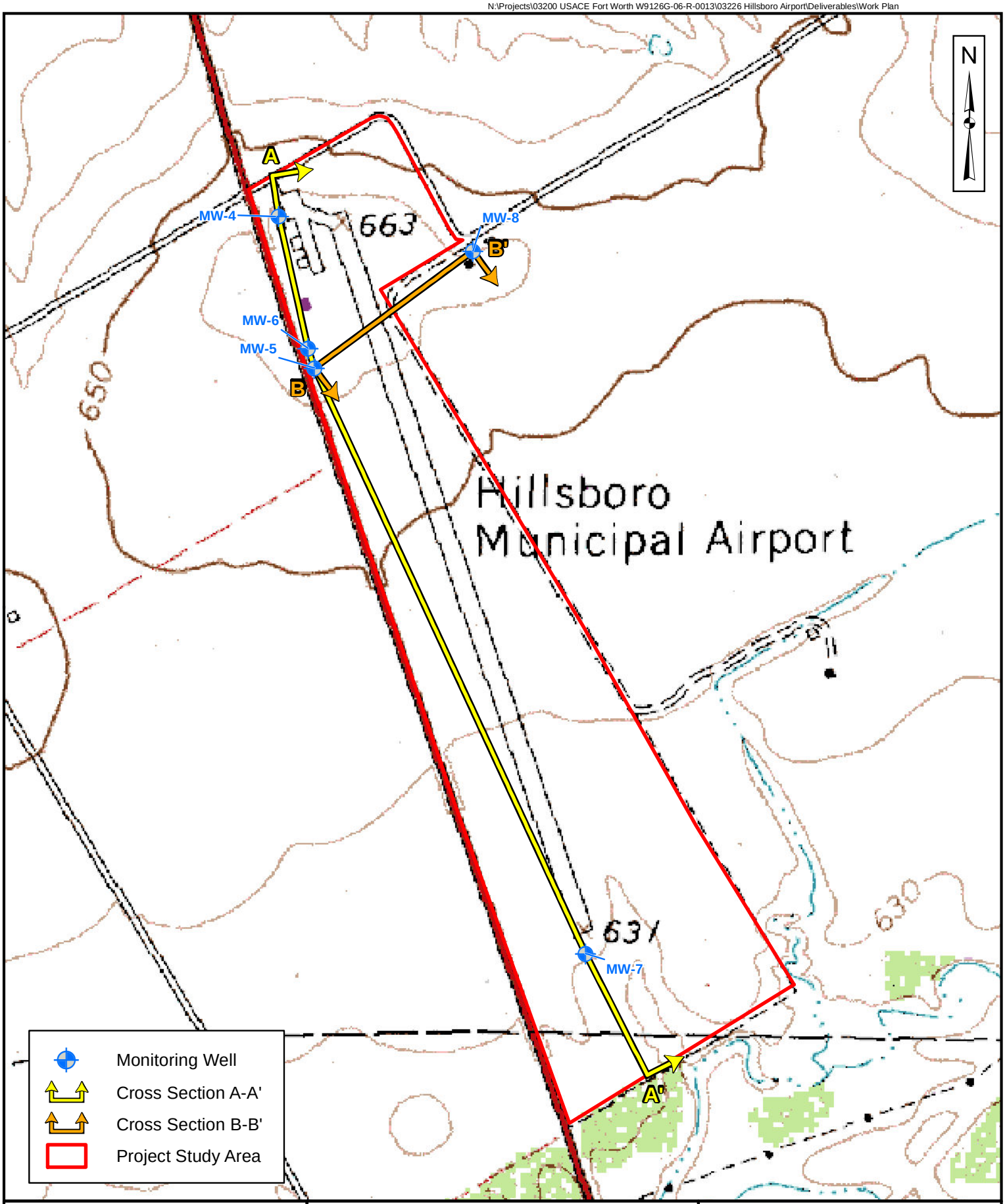

HILLSBORO EAST & WEST QUADRANGLE

SCALE: 1 inch = 600 feet

0 250 500 750 1,000 Feet

FIGURE 3
Cross Section Locations
Hillsboro Airport Brownfields Property
Targeted Brownfields Assessment Phase II ESA
HILLSBORO, TEXAS

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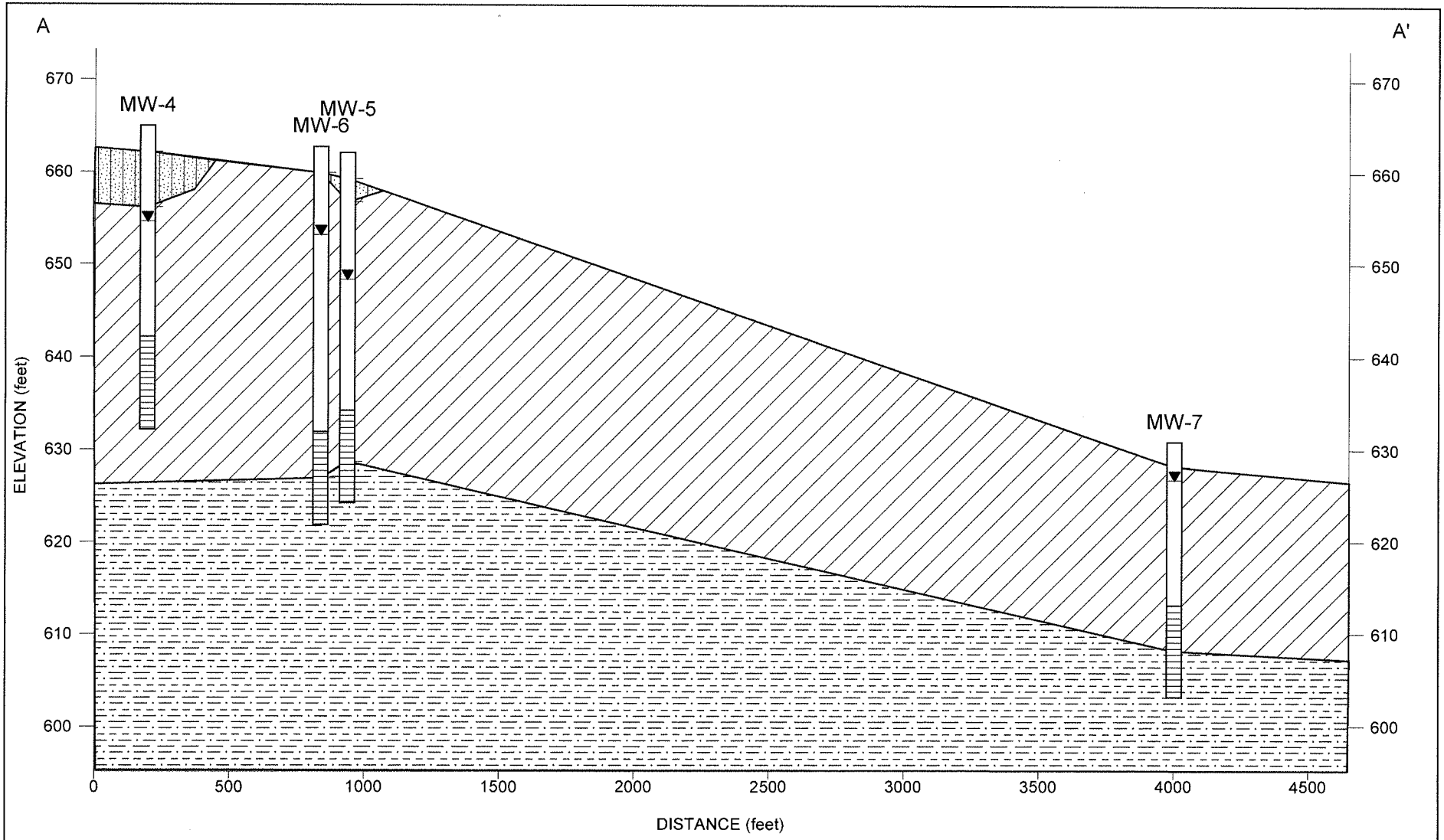

Targeted Brownfields Assessment
Phase II Environmental Site Assessment
Hillsboro Airport Brownfields Property

Hillsboro, TX

Project # 03226

Stell Environmental Enterprises, Inc.
...The Difference!

Figure 4

GEOLOGIC CROSS SECTION

Section A - A'

LEGEND

- SILTY SAND
- SILTY CLAY
- SHALE

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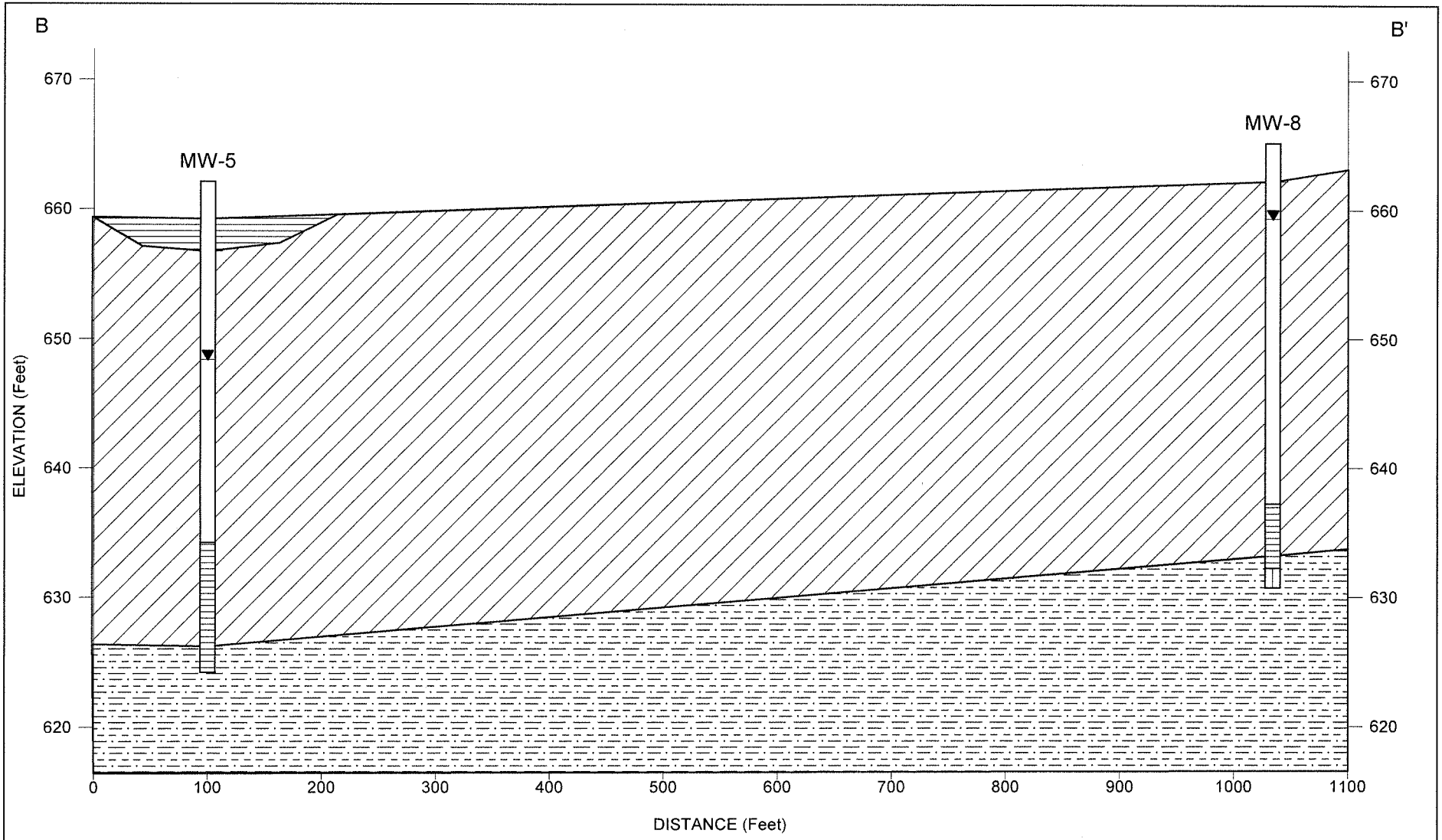

Targeted Brownfields Assessment
Phase II Environmental Site Assessment
Hillsboro Airport Brownfields Property

Hillsboro, TX

Project # 03226

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Figure 5

GEOLOGIC CROSS SECTION

Section B - B'

LEGEND

- SILTY SAND
- SILTY CLAY
- SHALE

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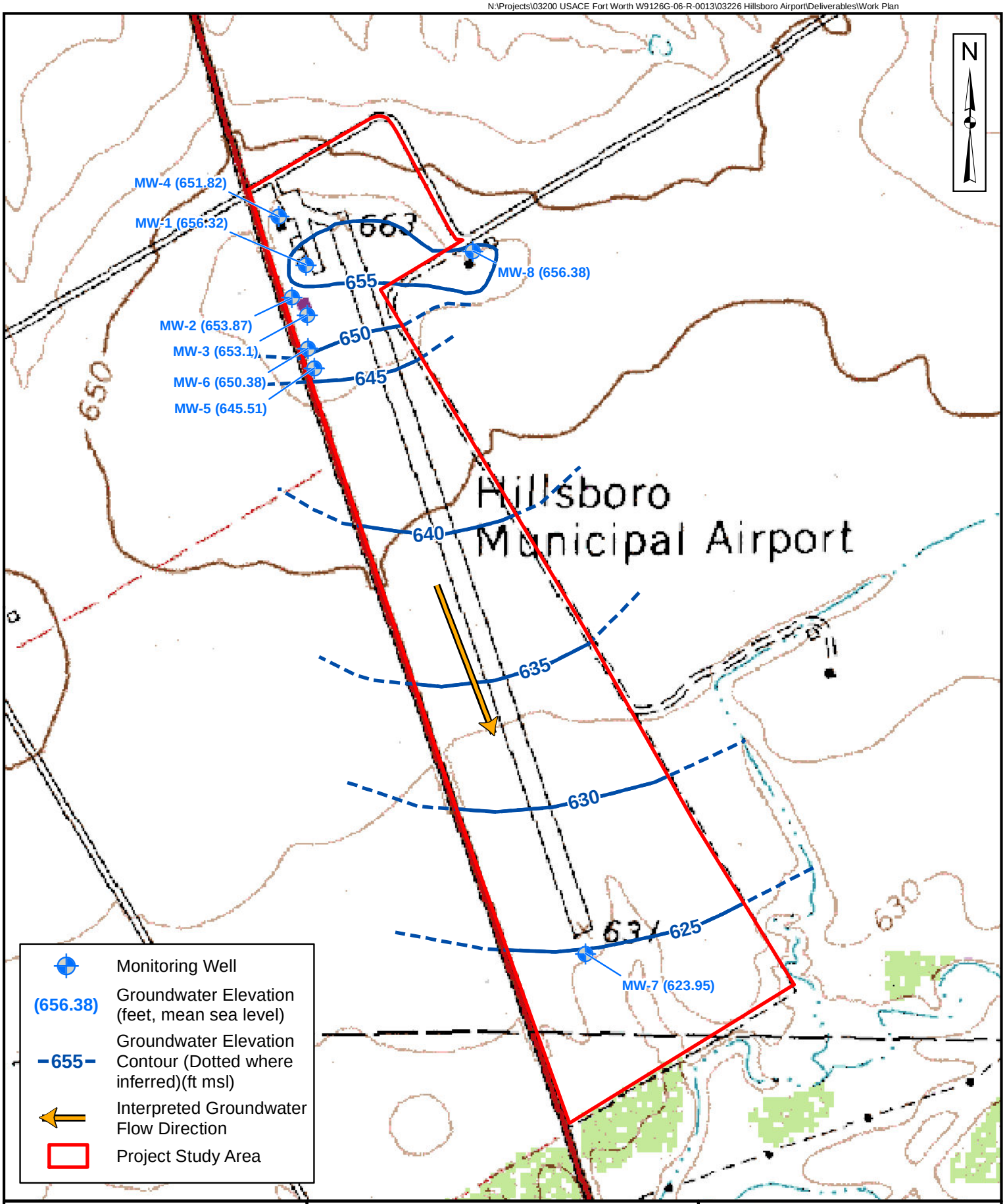

HILLSBORO EAST & WEST QUADRANGLE

SCALE: 1 inch = 600 feet

0 250 500 750 1,000 Feet

FIGURE 6
Interpreted Groundwater Flow Direction
Hillsboro Airport Brownfields Property
Targeted Brownfields Assessment Phase II ESA
HILLSBORO, TEXAS

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Completed by: JDD on 12/13/2010 Source: USGS Seamless Server, 2010. Digital Raster Graphic 24K Template, Hillsboro East & Hillsboro West Quadrangles

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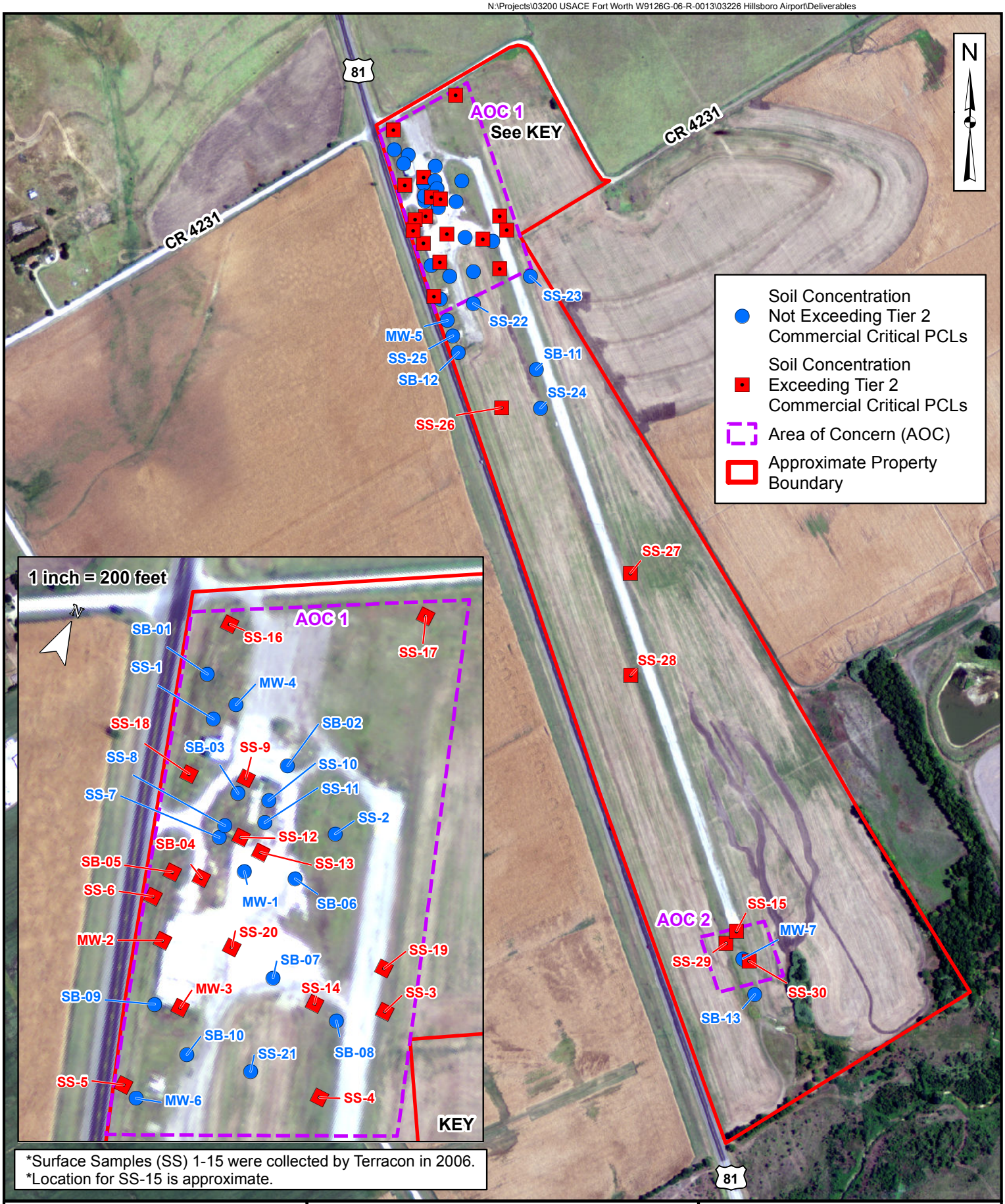

SCALE: 1 inch = 550 feet

0 250 500 750 1,000 Feet

FIGURE 7
2010 Surface Soil Sample Concentrations Exceeding Tier 2 Commercial Critical PCLs
Hillsboro Airport Brownfields Property
Targeted Brownfields Assessment Phase II ESA
HILLSBORO, TEXAS

Stell Environmental Enterprises, Inc.
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(610) 286-0100
www.stellee.com

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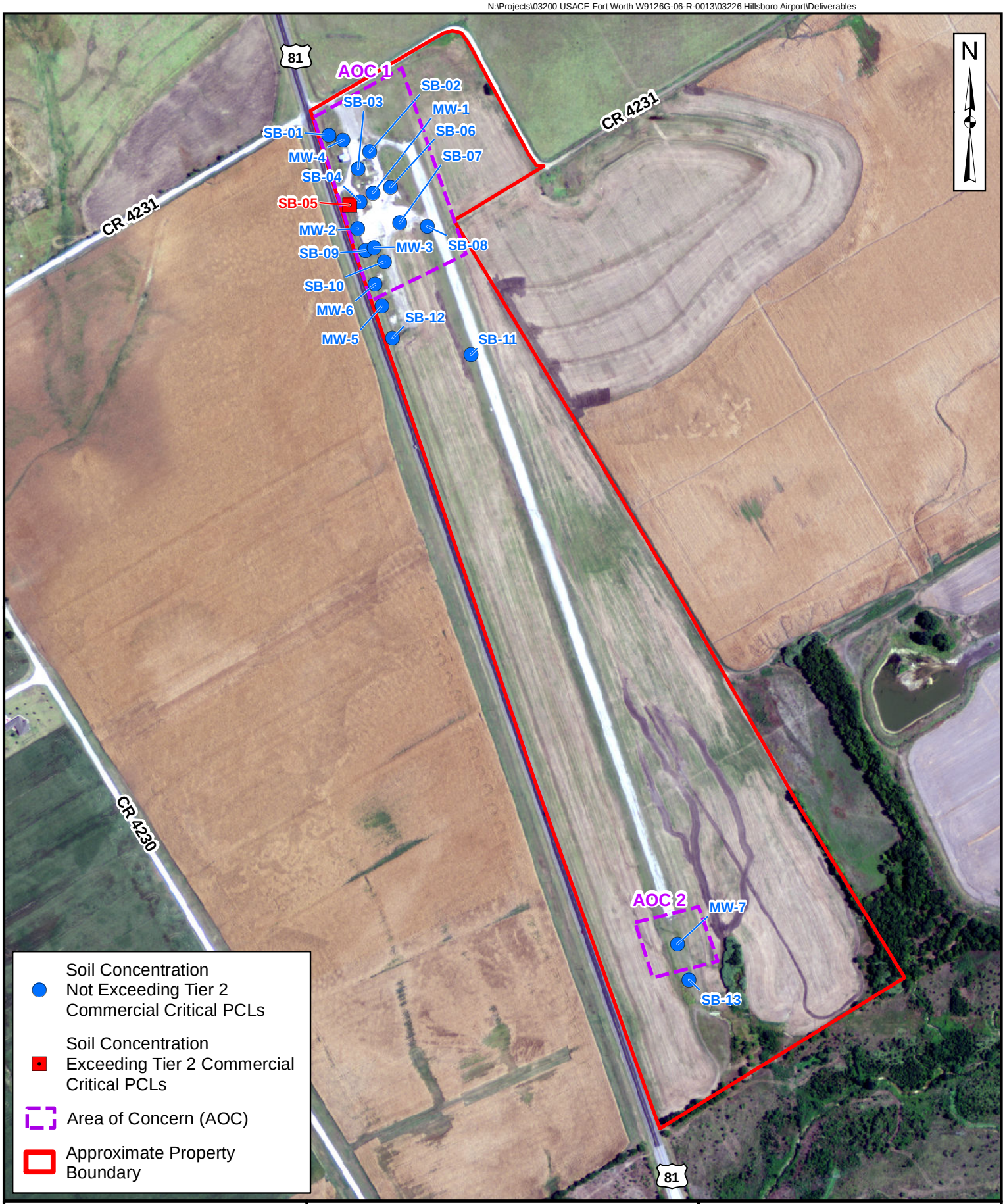

SCALE: 1 inch = 550 feet

0 250 500 750 1,000 Feet

FIGURE 8
2010 Subsurface Soil Sample Concentrations Exceeding Tier 2 Commercial Critical PCLs
Hillsboro Airport Brownfields Property
Targeted Brownfields Assessment Phase II ESA
HILLSBORO, TEXAS

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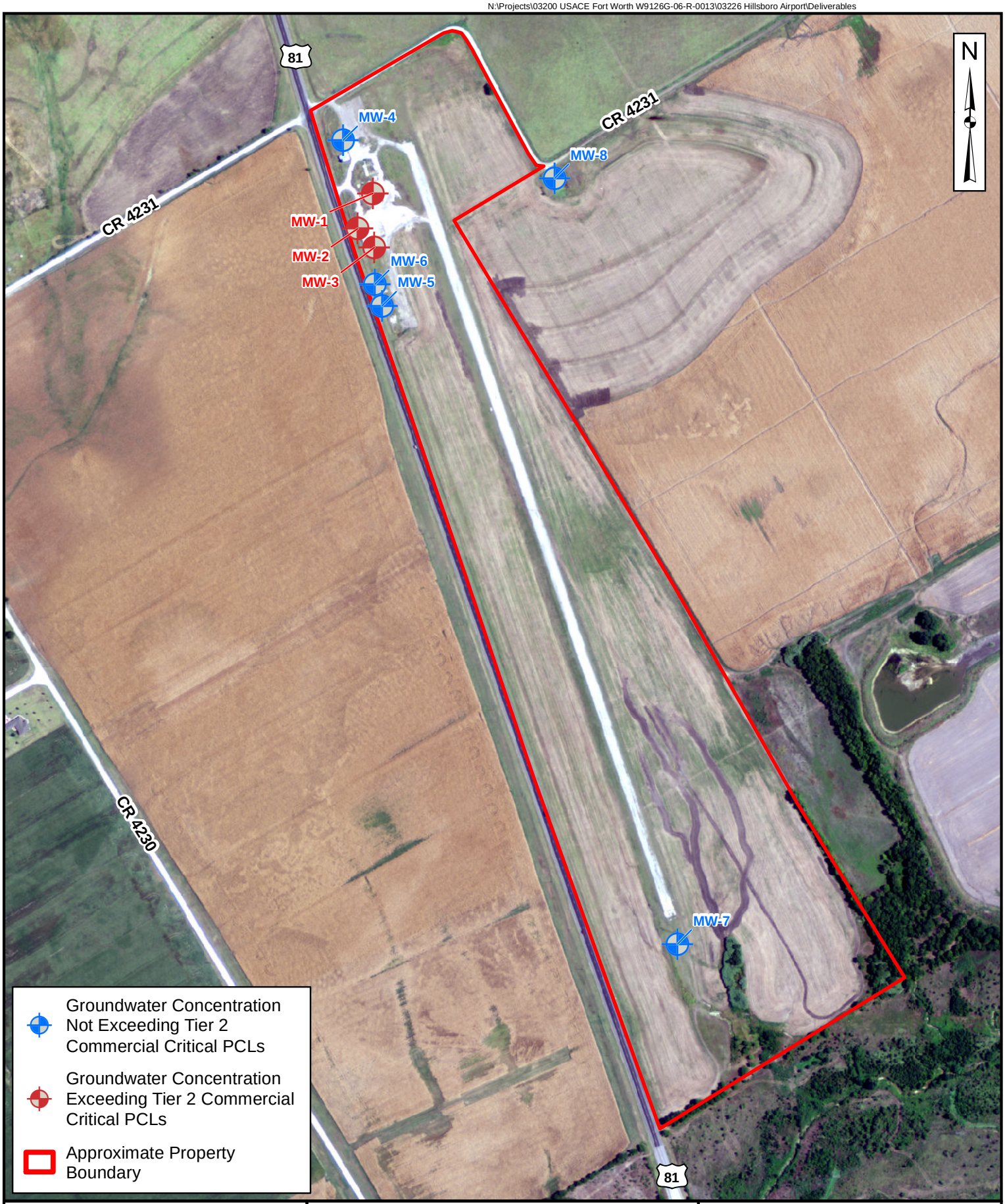

SCALE: 1 inch = 550 feet

0 250 500 750 1,000 Feet

FIGURE 9
Groundwater Concentrations Exceeding Tier 2 Commercial Critical PCLs
Hillsboro Airport Brownfields Property
Targeted Brownfields Assessment Phase II ESA
HILLSBORO, TEXAS

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(610) 286-0100
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Completed by: JDD on 12/1/2010 Source: USGS Seamless Server, 2010. National Agriculture Imagery Program (NAIP) Orthoimagery for Zone 14 Texas State (2008)

TABLES

Table 1
PCLs Addressed In Tier 2 Analysis
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Tier 1 PCLs (RG-366/TRRP-23)			
Tier 2 PCL by Medium	**Soil, Residential Use[1]**	**Soil, Industrial/ Commercial Use[1]**	**Groundwater[2]**
	Surface soil ($^{Tot}Soil_{Comb}$) - Combined ingestion, dermal, inhalation of volatiles and particulates, ingestion of above and below-ground vegetables	Surface soil ($^{Tot}Soil_{Comb}$) - Combined ingestion, dermal, inhalation of volatiles and particulates	Groundwater ($^{Air}GW_{Inh-V}$) - Inhalation of VOCs from groundwater
	Subsurface Soil ($^{Air}Soil_{Inh-V}$) - Inhalation of VOCs in subsurface soil	Subsurface Soil ($^{Air}Soil_{Inh-V}$) - Inhalation of VOCs in subsurface soils	Groundwater Ingestion ($^{GW}GW_{Ing}$) – Ingestion of COCs in groundwater

Notes:
1. PCLs are not required if detections are less than residential assessment levels in all media (350.71(k)(1).
2. EPA and TCEQ indicate that Class 1&2 groundwater ingestion or leaching need not be addressed because although there is a groundwater well within ½ mile (Phase I EA), it is upgradient of the Site. There is a public water supply to the site. Thus, PCLs for ingestion of groundwater ($^{GW}GW_{Ing}$), and leaching to groundwater ($^{GW}Soil_{Ing}$), were not calculated.

Table 2
Exposure Points for Tier 2 PCLs
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Residential Use		**Industrial/ Commercial Use**	
PCL	**POE**	**PCL**	**POE**
Surface soil ($^{Tot}Soil_{Comb}$)	Offsite, upper 15’	Surface soil ($^{Tot}Soil_{Comb}$)	Onsite, upper 5’
Subsurface Soil ($^{Air}Soil_{Inh\text{-}V}$)	Offsite, at boundary, >15’ bgs	Subsurface Soil ($^{Air}Soil_{Inh\text{-}V}$)	Onsite, >5’ bgs
Groundwater ($^{Air}GW_{Inh\text{-}V}$, $^{GW}GW_{Ing}$)	Offsite, at boundary	Groundwater ($^{Air}GW_{Inh\text{-}V}$)	Onsite

Notes:
PCL – protective concentration level
POE – point of exposure

Table 3
Tier 1 PCLs
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Analyte	CAS	TRRP Tier 1 $^{Tot}Soil_{comb}$ Res Table 1 Soil PCLs (mg/kg)	TRRP Tier 1 $^{GW}Soil_{ing}$ Res Table 1 Soil PCLs (mg/kg)	TRRP Tier 1 $^{Tot}Soil_{Comb}$ Com Table 2 Soil PCLs (mg/kg)	TRRP Tier 1 $^{GW}Soil_{ing}$ Com Table 2 Soil PCLs (mg/kg)	Texas-Specific Soil Background (TSBC) (mg/kg)	TRRP Tier 1 $^{GW}GW_{ing}$ Res Table 3 GW PCLs (mg/L)	TRRP Tier 1 $^{Air}GW_{Inh\text{-}V}$ Res Table 3 GW PCLs (mg/L)	TRRP Tier 1 $^{GW}GW_{ing}$ Com Table 3 GW PCLs (mg/L)	TRRP Tier 1 $^{Air}GW_{Inh\text{-}V}$ Com Table 3 GW PCLs (mg/L)	TRRP Table 3 Secondary MCL (mg/L)	MQL Soil (mg/L)	MQL GW (mg/L)	TRRP Tier 1 Critical Res Soil PCLs (mg/kg)	TRRP Tier 1 Critical Com Soil PCLs (mg/kg)	TRRP Tier 1 Critical Res GW PCLs (Class 1) (mg/L)	TRRP Tier 1 Critical Com GW PCLs (Class 1) (mg/L)
1,1,1,2-Tetrachloroethane	630-20-6	3.89E+01	7.08E-01	7.31E+01	1.59E+00	NA	3.51E-02	1.43E+01	7.86E-02	2.41E+01	NV	0.00E+00	1.00E-03	7.08E-01	1.59E+00	3.51E-02	7.86E-02
1,1,1-Trichloroethane	71-55-6	3.18E+04	8.10E-01	5.38E+04	8.10E-01	NA	2.00E-01	5.14E+03	2.00E-01	7.19E+03	NV	0.00E+00	1.00E-03	8.10E-01	8.10E-01	2.00E-01	2.00E-01
1,1,2,2-Tetrachloroethane	79-34-5	3.99E+00	1.15E-02	7.32E+00	2.59E-02	NA	4.56E-03	5.69E+00	1.02E-02	9.55E+00	NV	0.00E+00	1.00E-03	1.15E-02	2.59E-02	4.56E-03	1.02E-02
1,1,2-Trichloroethane	79-00-5	1.04E+01	1.00E-02	1.86E+01	1.00E-02	NA	5.00E-03	1.04E+01	5.00E-03	1.74E+01	NV	0.00E+00	1.00E-03	1.00E-02	1.00E-02	5.00E-03	5.00E-03
1,1-Dichloroethane	75-34-3	2.65E+03	9.25E+00	4.33E+03	2.76E+01	NA	4.89E+00	9.28E+02	1.46E+01	1.30E+03	NV	0.00E+00	1.00E-03	9.25E+00	2.76E+01	4.89E+00	1.46E+01
1,1-Dichloroethene	75-35-4	1.62E+03	2.50E-02	3.50E+03	2.50E-02	NA	7.00E-03	2.15E+02	7.00E-03	3.02E+02	NV	0.00E+00	1.00E-03	2.50E-02	2.50E-02	7.00E-03	7.00E-03
1,1-Dichloropropene	563-58-6	2.62E+01	6.72E-02	6.09E+01	1.51E-01	NA	9.13E-03	2.48E+00	2.04E-02	4.17E+00	NV	0.00E+00	1.00E-03	6.72E-02	1.51E-01	9.13E-03	2.04E-02
1,2,3-Trichlorobenzene	87-61-6	1.88E+02	1.31E+01	1.39E+03	3.93E+01	NA	7.33E-02	3.46E+02	2.19E-01	4.85E+02	NV	0.00E+00	1.00E-03	1.31E+01	3.93E+01	7.33E-02	2.19E-01
1,2,3-Trichloropropane	96-18-4	2.02E-01	2.66E-04	9.54E-01	5.97E-04	NA	3.04E-05	5.57E+01	6.81E-05	7.80E+01	NV	0.00E+00	3.00E-03	2.66E-04	5.97E-04	3.00E-03	3.00E-03
1,2,4-Trichlorobenzene	120-82-1	6.95E+01	2.40E+00	1.07E+02	2.40E+00	NA	7.00E-02	2.02E+01	7.00E-02	2.83E+01	NV	0.00E+00	1.00E-03	2.40E+00	2.40E+00	7.00E-02	7.00E-02
1,2,4-Trimethylbenzene	95-63-6	7.33E+01	4.85E+00	1.12E+02	1.45E+01	NA	2.44E-01	2.46E+01	7.30E-01	3.44E+01	NV	0.00E+00	1.00E-03	4.85E+00	1.45E+01	2.44E-01	7.30E-01
1,2-Dibromo-3-Chloropropane	96-12-8	8.00E-02	8.73E-04	1.36E-01	8.73E-04	NA	2.00E-04	7.98E-02	2.00E-04	1.34E-01	NV	0.00E+00	5.00E-03	8.73E-04	8.73E-04	5.00E-03	5.00E-03
1,2-Dichlorobenzene	95-50-1	3.89E+02	8.94E+00	5.71E+02	8.94E+00	NA	6.00E-01	1.50E+02	6.00E-01	2.10E+02	NV	0.00E+00	1.00E-03	8.94E+00	8.94E+00	6.00E-01	6.00E-01
1,2-Dichloroethane	107-06-2	6.41E+00	6.86E-03	1.15E+01	6.86E-03	NA	5.00E-03	4.26E+00	5.00E-03	7.16E+00	NV	0.00E+00	1.00E-03	6.86E-03	6.86E-03	5.00E-03	5.00E-03
1,2-Dichloropropane	78-87-5	3.14E+01	1.14E-02	4.42E+01	1.14E-02	NA	5.00E-03	1.50E+01	5.00E-03	2.10E+01	NV	0.00E+00	1.00E-03	1.14E-02	1.14E-02	5.00E-03	5.00E-03
1,3,5-Trimethylbenzene	108-67-8	5.87E+01	2.66E+01	8.32E+01	7.94E+01	NA	1.22E+00	1.63E+01	3.65E+00	2.28E+01	NV	0.00E+00	1.00E-03	2.66E+01	7.94E+01	1.22E+00	3.65E+00
1,3-Dichlorobenzene	541-73-1	6.16E+01	3.37E+00	8.82E+01	1.01E+01	NA	7.33E-01	2.45E+01	2.19E+00	3.44E+01	NV	0.00E+00	1.00E-03	3.37E+00	1.01E+01	7.33E-01	2.19E+00
1,3-Dichloropropane	142-28-9	2.62E+01	3.22E-02	6.09E+01	7.21E-02	NA	9.13E-03	3.29E+01	2.04E-02	5.53E+01	NV	0.00E+00	1.00E-03	3.22E-02	7.21E-02	9.13E-03	2.04E-02
1,4-Dichlorobenzene	106-46-7	2.53E+02	1.05E+00	1.19E+03	1.05E+00	NA	7.50E-02	4.64E+02	7.50E-02	6.49E+02	NV	0.00E+00	1.00E-03	1.05E+00	1.05E+00	7.50E-02	7.50E-02
2,2-Dichloropropane	594-20-7	3.14E+01	6.04E-02	4.42E+01	1.35E-01	NA	1.34E-02	7.33E+00	3.01E-02	1.03E+01	NV	0.00E+00	1.00E-03	6.04E-02	1.35E-01	1.34E-02	3.01E-02
2-Butanone (MEK)	78-93-3	2.68E+04	1.46E+01	7.26E+04	4.37E+01	NA	1.47E+01	3.52E+05	4.38E+01	4.93E+05	NV	0.00E+00	6.00E-03	1.46E+01	4.37E+01	1.47E+01	4.38E+01
2-Chlorotoluene	95-49-8	8.29E+02	4.53E+00	2.51E+03	1.35E+01	NA	4.89E-01	9.92E+02	1.46E+00	1.39E+03	NV	0.00E+00	1.00E-03	4.53E+00	1.35E+01	4.89E-01	1.46E+00
2-Hexanone	591-78-6	2.09E+02	1.61E-01	5.33E+02	4.82E-01	NA	1.22E-01	1.49E+03	3.65E-01	2.08E+03	NV	0.00E+00	5.00E-03	1.61E-01	4.82E-01	1.22E-01	3.65E-01
4-Chlorotoluene	106-43-4	2.47E+00	1.89E+01	3.46E+00	5.65E+01	NA	1.71E+00	1.02E+00	5.11E+00	1.43E+00	NV	0.00E+00	1.00E-03	2.47E+00	3.46E+00	1.02E+00	1.43E+00
4-Isopropyltoluene	99-87-6	2.47E+03	1.16E+02	4.71E+03	3.46E+02	NA	2.44E+00	5.90E+02	7.30E+00	8.26E+02	NV	0.00E+00	1.00E-03	1.16E+02	3.46E+02	2.44E+00	7.30E+00
4-Methyl-2-pentanone (MIBK)	108-10-1	5.37E+03	2.47E+00	2.76E+04	7.39E+00	NA	1.96E+00	8.71E+04	5.84E+00	1.22E+05	NV	0.00E+00	5.00E-03	2.47E+00	7.39E+00	1.96E+00	5.84E+00
Acetone	67-64-1	5.42E+03	2.14E+01	8.11E+03	6.38E+01	NA	2.20E+01	3.27E+04	6.57E+01	4.58E+04	NV	0.00E+00	1.00E-02	2.14E+01	6.38E+01	2.20E+01	6.57E+01
Aldrin	309-00-2	4.97E-02	5.14E-02	9.70E-01	1.15E-01	NA	5.37E-05	5.71E-01	1.20E-04	9.59E-01	NV	1.70E-03	5.00E-05	4.97E-02	1.15E-01	5.37E-05	1.20E-04
alpha-Chlordane	5103-71-9	1.28E+01	3.69E+02	5.37E+01	8.27E+02	NA	2.61E-03	1.99E+01	5.84E-03	3.34E+01	NV	1.70E-03	5.00E-05	1.28E+01	5.37E+01	2.61E-03	5.84E-03
Arsenic	7440-38-2	2.42E+01	2.51E+00	1.96E+02	2.51E+00	5.90E+00	1.00E-02	NV	1.00E-02	NV	NV	1.50E+00	1.50E-02	5.90E+00	5.90E+00	1.00E-02	1.00E-02
Barium	7440-39-3	7.84E+03	2.22E+02	8.88E+04	2.22E+02	3.00E+02	2.00E+00	NV	2.00E+00	NV	NV	2.00E+00	1.00E-02	3.00E+02	3.00E+02	2.00E+00	2.00E+00
Benzene	71-43-2	4.76E+01	1.28E-02	1.11E+02	1.28E-02	NA	5.00E-03	2.33E+01	5.00E-03	3.91E+01	NV	0.00E+00	1.00E-03	1.28E-02	1.28E-02	5.00E-03	5.00E-03
Bromobenzene	108-86-1	2.83E+02	1.16E+00	6.43E+02	3.45E+00	NA	1.96E-01	2.93E+02	5.84E-01	4.10E+02	NV	0.00E+00	1.00E-03	1.16E+00	3.45E+00	1.96E-01	5.84E-01
Bromoform	75-25-2	2.76E+02	3.16E-01	6.03E+02	7.07E-01	NA	1.16E-01	6.65E+02	2.59E-01	1.12E+03	NV	0.00E+00	1.00E-03	3.16E-01	7.07E-01	1.16E-01	2.59E-01
Bromomethane	74-83-9	2.94E+01	6.54E-02	5.32E+01	1.95E-01	NA	3.42E-02	5.96E+00	1.02E-01	8.34E+00	NV	0.00E+00	2.00E-03	6.54E-02	1.95E-01	3.42E-02	1.02E-01
C6-C35	(blank)	NV	NV	NV	NV	NA	NV	NV	NV	NV	NV	0.00E+00	0.00E+00	NV	NV	NV	NV
Cadmium	7440-43-9	5.24E+01	7.55E-01	8.52E+02	7.55E-01	NV	5.00E-03	NV	5.00E-03	NV	NV	5.00E-01	5.00E-03	7.55E-01	7.55E-01	5.00E-03	5.00E-03
Carbon disulfide	75-15-0	3.30E+03	6.79E+00	7.19E+03	2.03E+01	NA	2.44E+00	6.30E+02	7.30E+00	8.81E+02	NV	0.00E+00	2.00E-03	6.79E+00	2.03E+01	2.44E+00	7.30E+00
Carbon tetrachloride	56-23-5	9.72E+00	3.09E-02	1.89E+01	3.09E-02	NA	5.00E-03	1.02E+00	5.00E-03	1.71E+00	NV	0.00E+00	2.00E-03	3.09E-02	3.09E-02	5.00E-03	5.00E-03
Chlorobenzene	108-90-7	3.18E+02	5.46E-01	5.38E+02	5.46E-01	NA	1.00E-01	1.50E+02	1.00E-01	2.10E+02	NV	0.00E+00	1.00E-03	5.46E-01	5.46E-01	1.00E-01	1.00E-01
Chlorobromomethane	74-97-5	3.52E+02	1.52E+00	5.45E+02	4.54E+00	NA	9.78E-01	2.91E+02	2.92E+00	4.07E+02	NV	0.00E+00	1.00E-03	1.52E+00	4.54E+00	9.78E-01	2.92E+00
Chlorodibromomethane	124-48-1	7.23E+01	2.46E-02	3.41E+02	5.50E-02	NA	1.09E-02	NV	2.43E-02	NV	NV	0.00E+00	1.00E-03	2.46E-02	5.50E-02	1.09E-02	2.43E-02
Chloroethane	75-00-3	2.32E+04	1.55E+01	8.70E+04	4.61E+01	NA	9.78E+00	1.50E+04	2.92E+01	2.10E+04	NV	0.00E+00	2.00E-03	1.55E+01	4.61E+01	9.78E+00	2.92E+01
Chloroform	67-66-3	8.01E+00	5.10E-01	1.35E+01	1.52E+00	NA	2.44E-01	2.58E+00	7.30E-01	4.33E+00	NV	0.00E+00	1.00E-03	5.10E-01	1.52E+00	2.44E-01	7.30E-01
Chloromethane	74-87-3	8.40E+01	2.03E-01	1.59E+02	4.54E-01	NA	7.02E-02	4.68E+00	1.57E-01	7.86E+00	NV	0.00E+00	2.00E-03	2.03E-01	4.54E-01	7.02E-02	1.57E-01
Chromium	7440-47-3	2.66E+04	1.20E+03	7.46E+04	1.20E+03	3.00E+01	1.00E-01	NV	1.00E-01	NV	NV	2.00E+00	1.00E-02	1.20E+03	1.20E+03	1.00E-01	1.00E-01
cis-1,2-Dichloroethene	156-59-2	7.24E+02	1.24E-01	4.72E+03	1.24E-01	NA	7.00E-02	2.10E+03	7.00E-02	2.94E+03	NV	0.00E+00	1.00E-03	1.24E-01	1.24E-01	7.00E-02	7.00E-02
cis-1,3-Dichloropropene	10061-01-5	7.09E+00	3.32E-03	4.29E+01	7.44E-03	NA	1.69E-03	2.99E+01	3.79E-03	4.18E+01	NV	0.00E+00	1.00E-03	3.32E-03	7.44E-03	1.69E-03	3.79E-03
DDD	72-54-8	1.42E+01	6.48E+00	1.04E+02	1.45E+01	NA	3.80E-03	NV	8.52E-03	NV	NV	1.70E-03	5.00E-05	6.48E+00	1.45E+01	3.80E-03	8.52E-03
DDE	72-55-9	1.02E+01	5.89E+00	7.32E+01	1.32E+01	NA	2.68E-03	NV	6.01E-03	NV	NV	1.70E-03	5.00E-05	5.89E+00	1.32E+01	2.68E-03	6.01E-03
DDT	50-29-3	5.39E+00	7.37E+00	6.84E+01	1.65E+01	NA	2.68E-03	8.07E+01	6.01E-03	1.36E+02	NV	2.00E-03	5.00E-05	5.39E+00	1.65E+01	2.68E-03	6.01E-03
Dibromomethane	74-95-3	1.35E+02	5.65E-01	1.94E+02	1.26E+00	NA	1.22E-01	1.02E+02	2.73E-01	1.42E+02	NV	0.00E+00	1.00E-03	5.65E-01	1.26E+00	1.22E-01	2.73E-01
Dicamba	1918-00-9	6.26E+02	7.35E-01	1.20E+03	2.19E+00	NA	7.33E-01	3.93E+04	2.19E+00	5.50E+04	NV	0.00E+00	0.00E+00	7.35E-01	2.19E+00	7.33E-01	2.19E+00
Dichlorobromomethane	75-27-4	9.79E+01	3.27E-02	4.62E+02	7.33E-02	NA	1.47E-02	NV	3.30E-02	NV	NV	0.00E+00	1.00E-03	3.27E-02	7.33E-02	1.47E-02	3.30E-02
Dichlorodifluoromethane	75-71-8	1.15E+04	1.20E+02	4.32E+04	3.58E+02	NA	4.89E+00	3.85E+02	1.46E+01	5.38E+02	NV	0.00E+00	2.00E-03	1.20E+02	3.58E+02	4.89E+00	1.46E+01
Dichlorophenoxyacetic acid, 2,4- (	94-75-7	3.69E+02	1.31E+00	9.20E+02	1.31E+00	NA	7.00E-02	4.25E+03	7.00E-02	5.95E+03	NV	0.00E+00	0.00E+00	1.31E+00	1.31E+00	7.00E-02	7.00E-02
Dieldrin	60-57-1	1.45E-01	2.44E-02	1.14E+00	5.47E-02	NA	5.70E-05	1.64E+01	1.28E-04	2.76E+01	NV	1.70E-03	5.00E-05	2.44E-02	5.47E-02	5.70E-05	1.28E-04
Disulfoton	298-04-4	2.57E+00	1.75E-01	2.18E+01	5.23E-01	NA	9.78E-04	4.52E+01	2.92E-03	6.33E+01	NV	0.00E+00	0.00E+00	1.75E-01	5.23E-01	9.78E-04	2.92E-03
Dursban (chlropyrifos)	2921-88-2	7.39E+01	7.42E+00	2.19E+02	2.22E+01	NA	7.33E-02	2.06E+02	2.19E-01	2.88E+02	NV	0.00E+00	0.00E+00	7.42E+00	2.22E+01	7.33E-02	2.19E-01
Endosulfan I	959-98-8	4.65E+01	1.54E+01	1.22E+02	4.60E+01	NA	4.89E-02	1.17E+02	1.46E-01	1.64E+02	NV	1.70E-03	5.00E-05	1.54E+01	4.60E+01	4.89E-02	1.46E-01
Endosulfan II	33213-65-9	2.72E+02	4.62E+01	4.09E+03	1.38E+02	NA	1.47E-01	NV	4.38E-01	NV	NV	1.70E-03	5.00E-05	4.62E+01	1.38E+02	1.47E-01	4.38E-01
Endosulfan sulfate	1031-07-8	3.85E+02	2.33E+03	4.09E+03	6.96E+03	NA	1.47E-01	NV	4.38E-01	NV	NV	1.70E-03	5.00E-05	3.85E+02	4.09E+03	1.47E-01	4.38E-01
Endrin	72-20-8	8.69E+00	3.75E-01	1.27E+02	3.75E-01	NA	2.00E-03	4.22E+02	2.00E-03	5.91E+02	NV	1.70E-03	5.00E-05	3.75E-01	3.75E-01	2.00E-03	2.00E-03

Table 3
Tier 1 PCLs
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Analyte	CAS	TRRP Tier 1 $^{Tot}Soil_{comb}$ Res Table 1 Soil PCLs (mg/kg)	TRRP Tier 1 $^{GW}Soil_{ing}$ Res Table 1 Soil PCLs (mg/kg)	TRRP Tier 1 $^{Tot}Soil_{Comb}$ Com Table 2 Soil PCLs (mg/kg)	TRRP Tier 1 $^{GW}Soil_{ing}$ Com Table 2 Soil PCLs (mg/kg)	Texas-Specific Soil Background (TSBC) (mg/kg)	TRRP Tier 1 $^{GW}GW_{ing}$ Res Table 3 GW PCLs (mg/L)	TRRP Tier 1 $^{Air}GW_{Inh-V}$ Res Table 3 GW PCLs (mg/L)	TRRP Tier 1 $^{GW}GW_{ing}$ Com Table 3 GW PCLs (mg/L)	TRRP Tier 1 $^{Air}GW_{Inh-V}$ Com Table 3 GW PCLs (mg/L)	TRRP Table 3 Secondary MCL (mg/L)	MQL Soil (mg/L)	MQL GW (mg/L)	TRRP Tier 1 Critical Res Soil PCLs (mg/kg)	TRRP Tier 1 Critical Com Soil PCLs (mg/kg)	TRRP Tier 1 Critical Res GW PCLs (Class 1) (mg/L)	TRRP Tier 1 Critical Com GW PCLs (Class 1) (mg/L)
Endrin aldehyde	7421-93-4	1.94E+01	3.14E+02	2.04E+02	9.36E+02	NA	7.33E-03	NV	2.19E-02	NV	NV	1.70E-03	5.00E-05	1.94E+01	2.04E+02	7.33E-03	2.19E-02
Endrin Ketone	53494-70-5	1.86E+01	2.55E+01	1.77E+02	7.61E+01	NA	7.33E-03	3.64E+02	2.19E-02	5.10E+02	NV	1.70E-03	5.00E-05	1.86E+01	7.61E+01	7.33E-03	2.19E-02
Ethylbenzene	100-41-4	4.02E+03	3.82E+00	9.97E+03	3.82E+00	NA	7.00E-01	2.02E+03	7.00E-01	2.83E+03	NV	0.00E+00	1.00E-03	3.82E+00	3.82E+00	7.00E-01	7.00E-01
Ethylene Dibromide	106-93-4	4.28E-01	1.03E-04	7.91E-01	1.03E-04	NA	5.00E-05	7.21E-01	5.00E-05	1.21E+00	NV	0.00E+00	1.00E-03	1.03E-04	1.03E-04	1.00E-03	1.00E-03
gamma-Chlordane	57-74-9	7.33E+00	2.05E+01	5.12E+01	4.60E+01	NA	2.61E-03	1.99E+01	5.84E-03	3.34E+01	NV	1.70E-03	5.00E-05	7.33E+00	4.60E+01	2.61E-03	5.84E-03
Heptachlor	76-44-8	1.27E-01	9.44E-02	2.76E+00	9.44E-02	NA	4.00E-04	8.12E-01	4.00E-04	1.36E+00	NV	1.70E-03	5.00E-05	9.44E-02	9.44E-02	4.00E-04	4.00E-04
Heptachlor epoxide	1024-57-3	2.37E-01	2.91E-02	1.90E+00	2.91E-02	NA	2.00E-04	1.54E+01	2.00E-04	2.59E+01	NV	1.70E-03	5.00E-05	2.91E-02	2.91E-02	2.00E-04	2.00E-04
Hexachlorobutadiene	87-68-3	1.20E+01	1.64E+00	2.28E+01	3.68E+00	NA	1.17E-02	1.14E+00	2.62E-02	1.92E+00	NV	0.00E+00	1.00E-03	1.64E+00	3.68E+00	1.17E-02	2.62E-02
Hexachlorocyclohexane, alpha (alp	319-84-6	2.51E-01	3.96E-03	2.88E+00	8.86E-03	NA	1.45E-04	1.99E+01	3.24E-04	3.34E+01	NV	1.70E-03	5.00E-05	3.96E-03	8.86E-03	1.45E-04	3.24E-04
Hexachlorocyclohexane, beta (bet	319-85-7	9.17E-01	1.45E-02	1.09E+01	3.24E-02	NA	5.07E-04	1.48E+02	1.14E-03	2.49E+02	NV	1.70E-03	5.00E-05	1.45E-02	3.24E-02	5.07E-04	1.14E-03
Hexachlorocyclohexane, delta (del	319-86-8	2.85E+00	8.68E-02	1.15E+01	1.94E-01	NA	5.07E-04	4.69E+01	1.14E-03	7.88E+01	NV	1.70E-03	5.00E-05	8.68E-02	1.94E-01	5.07E-04	1.14E-03
Hexachlorocyclohexane, gamma (l	58-89-9	1.11E+00	4.58E-03	1.83E+01	4.58E-03	NA	2.00E-04	1.08E+03	2.00E-04	1.51E+03	NV	1.70E-03	5.00E-05	4.58E-03	4.58E-03	2.00E-04	2.00E-04
Isopropylbenzene	98-82-8	3.01E+03	1.74E+02	6.25E+03	5.19E+02	NA	2.44E+00	5.69E+02	7.30E+00	7.96E+02	NV	0.00E+00	1.00E-03	1.74E+02	5.19E+02	2.44E+00	7.30E+00
Lead (inorganic)	7439-92-1	5.00E+02	1.51E+00	1.60E+03	1.51E+00	1.50E+01	1.50E-02	NV	1.50E-02	NV	NV	9.00E-01	9.00E-03	1.50E+01	1.50E+01	1.50E-02	1.50E-02
Malathion	121-75-5	8.79E+02	3.29E+00	2.86E+03	9.82E+00	NA	4.89E-01	2.98E+04	1.46E+00	4.17E+04	NV	0.00E+00	0.00E+00	3.29E+00	9.82E+00	4.89E-01	1.46E+00
Mercury (pH = 4.9)	7439-97-6	2.09E+00	3.91E-03	3.26E+00	3.91E-03	4.00E-02	2.00E-03	9.40E-01	2.00E-03	1.32E+00	NV	1.70E-02	2.00E-04	4.00E-02	4.00E-02	2.00E-03	2.00E-03
Methoxychlor	72-43-5	2.69E+02	6.21E+01	2.96E+03	6.21E+01	NA	4.00E-02	4.47E+03	4.00E-02	6.26E+03	NV	3.30E-03	1.00E-04	6.21E+01	6.21E+01	4.00E-02	4.00E-02
Methyl tert-butyl ether	1634-04-4	5.86E+02	3.11E-01	1.11E+03	9.28E-01	NA	2.44E-01	5.22E+02	7.30E-01	8.77E+02	1.50E-02	0.00E+00	5.00E-03	3.11E-01	9.28E-01	2.44E-01	7.30E-01
Methylene Chloride	75-09-2	2.64E+02	6.54E-03	5.62E+02	6.54E-03	NA	5.00E-03	1.64E+02	5.00E-03	2.76E+02	NV	0.00E+00	5.00E-03	6.54E-03	6.54E-03	5.00E-03	5.00E-03
m-Xylene & p-Xylene	1330-20-7	3.72E+03	6.13E+01	6.53E+03	6.13E+01	NA	1.00E+01	1.32E+03	1.00E+01	1.85E+03	NV	0.00E+00	2.00E-03	6.13E+01	6.13E+01	1.00E+01	1.00E+01
Naphthalene	91-20-3	1.24E+02	1.56E+01	1.90E+02	4.67E+01	NA	4.89E-01	4.09E+01	1.46E+00	5.73E+01	NV	0.00E+00	1.00E-03	1.56E+01	4.67E+01	4.89E-01	1.46E+00
n-Butylbenzene	104-51-8	1.49E+03	6.07E+01	4.04E+03	1.81E+02	NA	9.78E-01	4.69E+02	2.92E+00	6.57E+02	NV	0.00E+00	1.00E-03	6.07E+01	1.81E+02	9.78E-01	2.92E+00
N-Propylbenzene	103-65-1	1.63E+03	2.24E+01	4.10E+03	6.69E+01	NA	9.78E-01	7.82E+02	2.92E+00	1.09E+03	NV	0.00E+00	1.00E-03	2.24E+01	6.69E+01	9.78E-01	2.92E+00
o-Xylene	95-47-6	2.89E+04	3.54E+01	4.80E+04	3.54E+01	NA	1.00E+01	9.80E+04	1.00E+01	1.37E+05	NV	0.00E+00	1.00E-03	3.54E+01	3.54E+01	1.00E+01	1.00E+01
Parathion (ethyl parathion)	56-38-2	7.35E+01	1.66E+01	1.22E+02	4.95E+01	NA	1.47E-01	1.95E+02	4.38E-01	2.72E+02	NV	0.00E+00	0.00E+00	1.66E+01	4.95E+01	1.47E-01	4.38E-01
sec-Butylbenzene	135-98-8	1.55E+03	4.24E+01	3.75E+03	1.27E+02	NA	9.78E-01	5.02E+02	2.92E+00	7.03E+02	NV	0.00E+00	1.00E-03	4.24E+01	1.27E+02	9.78E-01	2.92E+00
Selenium	7782-49-2	3.08E+02	1.15E+00	4.70E+03	1.15E+00	3.00E-01	5.00E-02	NV	5.00E-02	NV	NV	3.00E+00	1.50E-02	1.15E+00	1.15E+00	5.00E-02	5.00E-02
Silver	7440-22-4	9.48E+01	2.39E-01	1.71E+03	7.15E-01	NA	1.22E-01	NV	3.65E-01	NV	1.00E-01	1.00E+00	1.00E-02	2.39E-01	7.15E-01	1.22E-01	3.65E-01
Silvex	93-72-1	NV	NV	NV	NV	NA	NV	NV	NV	NV	NV	0.00E+00	0.00E+00	NV	NV	NV	NV
Styrene	100-42-5	4.28E+03	1.63E+00	7.80E+03	1.63E+00	NA	1.00E-01	1.96E+03	1.00E-01	2.75E+03	NV	0.00E+00	1.00E-03	1.63E+00	1.63E+00	1.00E-01	1.00E-01
tert-Butylbenzene	98-06-6	1.40E+03	5.00E+01	3.15E+03	1.49E+02	NA	9.78E-01	3.21E+02	2.92E+00	4.50E+02	NV	0.00E+00	1.00E-03	5.00E+01	1.49E+02	9.78E-01	2.92E+00
Tetrachloroethylene	127-18-4	9.41E+01	2.51E-02	3.28E+02	2.51E-02	NA	5.00E-03	6.45E+01	5.00E-03	1.08E+02	NV	0.00E+00	1.00E-03	2.51E-02	2.51E-02	5.00E-03	5.00E-03
Toluene	108-88-3	5.45E+03	4.11E+00	2.92E+04	4.11E+00	NA	1.00E+00	8.22E+03	1.00E+00	1.15E+04	NV	0.00E+00	1.00E-03	4.11E+00	4.11E+00	1.00E+00	1.00E+00
Total Petroleum Hydrocarbons (C6	STL00006	NV	NV	NV	NV	NA	NV	NV	NV	NV	NV	0.00E+00	5.00E+00	NV	NV	NV	NV
Toxaphene	8001-35-2	1.24E+00	5.75E+00	1.70E+01	5.75E+00	NA	3.00E-03	2.31E+02	3.00E-03	3.89E+02	NV	1.70E-01	2.50E-03	1.24E+00	5.75E+00	3.00E-03	3.00E-03
TPH, TX1005, >C12-C28	TPH-1005-2	1.98E+03	9.90E+01	7.78E+03	2.96E+02	NA	9.78E-01	9.70E+02	2.92E+00	1.36E+03	NV	0.00E+00	0.00E+00	9.90E+01	2.96E+02	9.78E-01	2.92E+00
TPH, TX1005, >C28-C35	TPH-1005-4	1.98E+03	9.90E+01	7.78E+03	2.96E+02	NA	9.78E-01	9.70E+02	2.92E+00	1.36E+03	NV	0.00E+00	0.00E+00	9.90E+01	2.96E+02	9.78E-01	2.92E+00
TPH, TX1005, C6-C12	TPH-1005-1	1.07E+03	3.25E+01	2.10E+03	9.71E+01	NA	9.78E-01	2.27E+02	2.92E+00	3.18E+02	NV	0.00E+00	0.00E+00	3.25E+01	9.71E+01	9.78E-01	2.92E+00
trans-1,2-Dichloroethene	156-60-5	3.67E+02	2.45E-01	6.42E+02	2.45E-01	NA	1.00E-01	9.93E+01	1.00E-01	1.39E+02	NV	0.00E+00	1.00E-03	2.45E-01	2.45E-01	1.00E-01	1.00E-01
trans-1,3-Dichloropropene	10061-02-6	2.62E+01	1.79E-02	6.09E+01	4.02E-02	NA	9.13E-03	2.45E+01	2.04E-02	4.12E+01	NV	0.00E+00	1.00E-03	1.79E-02	4.02E-02	9.13E-03	2.04E-02
Trichloroethylene	79-01-6	6.80E+01	1.68E-02	1.09E+02	1.68E-02	NA	5.00E-03	1.53E+01	5.00E-03	2.14E+01	NV	0.00E+00	1.00E-03	1.68E-02	1.68E-02	5.00E-03	5.00E-03
Trichlorofluoromethane	75-69-4	1.16E+04	6.40E+01	2.81E+04	1.91E+02	NA	7.33E+00	5.27E+02	2.19E+01	7.38E+02	NV	0.00E+00	2.00E-03	6.40E+01	1.91E+02	7.33E+00	2.19E+01
Trichlorophenoxyacetic acid, 2,4,5	93-76-5	4.85E+02	4.93E-01	1.83E+03	1.47E+00	NA	2.44E-01	3.28E+04	7.30E-01	4.59E+04	NV	0.00E+00	0.00E+00	4.93E-01	1.47E+00	2.44E-01	7.30E-01
Vinyl chloride	75-01-4	3.42E+00	1.11E-02	1.26E+01	1.11E-02	NA	2.00E-03	4.92E-01	2.00E-03	8.27E-01	NV	0.00E+00	1.50E-03	1.11E-02	1.11E-02	2.00E-03	2.00E-03

Notes:
All values for a 30 ac source size where source size applicable
NA - Not applicable
NV - No value
Shaded cells - for soil, background is the appropriate Critical PCL; for groundwater, the MQL > PCL and so MQL is used (nondetected chemicals only)
Res - Residential; Com - Commercial/Industrial
Source:
PCL Tables March 2010. trrptbls1_5_033110.xls www.tceq.state.tx.us/remediation/trrp/trrppcls.html
Background: Texas-Specific Median Background Concentrations www.tceq.state.tx.us/assets/public/remediation/trrp/background.pdf

Table 4
Summary Statistics for Soil and Groundwater Data
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

		Soil							Water						
Analyte Name	CAS	n	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MQL (mg/kg)	Number of Detected Values	Number Exceeding Tier 1 Residential Critical PCL	Number Exceeding Tier 1 Commercial Critical PCL	n	Minimum Detected Value (mg/L)	Maximum Detected Value (mg/L)	Minimum MQL (mg/L)	Number of Detected Values	Number Exceeding Tier 1 Residential Critical PCL	Number Exceeding Tier 1 Commercial Critical PCL
1,1,1,2-Tetrachloroethane	630-20-6	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,1,1-Trichloroethane	71-55-6	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,1,2,2-Tetrachloroethane	79-34-5	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,1,2-Trichloroethane	79-00-5	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,1-Dichloroethane	75-34-3	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,1-Dichloroethene	75-35-4	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,1-Dichloropropene	563-58-6	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,2,3-Trichlorobenzene	87-61-6	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,2,3-Trichloropropane	96-18-4	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	3.00E-03	0	0	0
1,2,4-Trichlorobenzene	120-82-1	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,2,4-Trimethylbenzene	95-63-6	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,2-Dibromo-3-Chloropropane	96-12-8	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	5.00E-03	0	0	0
1,2-Dichlorobenzene	95-50-1	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,2-Dichloroethane	107-06-2	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,2-Dichloropropane	78-87-5	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,3,5-Trimethylbenzene	108-67-8	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,3-Dichlorobenzene	541-73-1	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,3-Dichloropropane	142-28-9	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
1,4-Dichlorobenzene	106-46-7	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
2,2-Dichloropropane	594-20-7	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
2-Butanone (MEK)	78-93-3	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	6.00E-03	0	0	0
2-Chlorotoluene	95-49-8	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
2-Hexanone	591-78-6	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	5.00E-03	0	0	0
4-Chlorotoluene	106-43-4	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
4-Isopropyltoluene	99-87-6	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
4-Methyl-2-pentanone (MIBK)	108-10-1	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	5.00E-03	0	0	0
Acetone	67-64-1	NS	NS	NS	NS	NS	NS	NS	9	6.30E-03	6.30E-03	1.00E-02	1	0	0
Aldrin	309-00-2	49	0.00E+00	0.00E+00	1.70E-03	0	0	0	12	6.70E-06	1.40E-04	5.00E-05	3	1	1
alpha-Chlordane	5103-71-9	49	0.00E+00	0.00E+00	1.70E-03	0	0	0	12	0.00E+00	0.00E+00	5.00E-05	0	0	0
Arsenic	7440-38-2	62	3.30E+00	9.68E+02	1.50E+00	62	58	58	6	1.75E-03	2.30E-03	1.50E-02	3	0	0
Barium	7440-39-3	62	1.80E+01	4.00E+02	2.00E+00	62	2	2	6	7.20E-04	1.10E-01	1.00E-02	5	0	0
Benzene	71-43-2	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
Bromobenzene	108-86-1	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
Bromoform	75-25-2	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
Bromomethane	74-83-9	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	2.00E-03	0	0	0
C6-C35	(blank)	3	0.00E+00	0.00E+00	NA	0	0	0	3	0.00E+00	0.00E+00	NA	0	0	0
Cadmium	7440-43-9	62	7.13E-02	3.20E+00	5.00E-01	56	8	8	6	0.00E+00	0.00E+00	5.00E-03	0	0	0
Carbon disulfide	75-15-0	NS	NS	NS	NS	NS	NS	NS	9	7.10E-04	7.10E-04	2.00E-03	1	0	0
Carbon tetrachloride	56-23-5	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	2.00E-03	0	0	0
Chlorobenzene	108-90-7	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
Chlorobromomethane	74-97-5	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
Chlorodibromomethane	124-48-1	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
Chloroethane	75-00-3	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	2.00E-03	0	0	0
Chloroform	67-66-3	NS	NS	NS	NS	NS	NS	NS	9	1.70E-04	1.80E-04	1.00E-03	2	0	0
Chloromethane	74-87-3	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	2.00E-03	0	0	0
Chromium	7440-47-3	62	6.10E+00	3.82E+01	2.00E+00	62	0	0	6	7.60E-04	1.80E-03	1.00E-02	4	0	0
cis-1,2-Dichloroethene	156-59-2	3	0.00E+00	0.00E+00	NA	0	0	0	12	2.90E-03	4.52E-02	1.00E-03	2	0	0
cis-1,3-Dichloropropene	10061-01-5	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
DDD	72-54-8	62	5.00E-03	1.30E+00	1.70E-03	5	0	0	15	1.08E-04	1.08E-04	5.00E-05	1	0	0
DDE	72-55-9	62	3.30E-04	2.40E+01	1.70E-03	52	4	2	15	0.00E+00	0.00E+00	5.00E-05	0	0	0
DDT	50-29-3	62	9.10E-04	4.76E+01	2.00E-03	44	6	5	15	1.50E-03	1.50E-03	5.00E-05	1	0	0
Dibromomethane	74-95-3	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
Dicamba	1918-00-9	13	0.00E+00	0.00E+00	NA	0	0	0	3	1.91E-04	1.67E-03	NA	3	0	0
Dichlorobromomethane	75-27-4	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
Dichlorodifluoromethane	75-71-8	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	2.00E-03	0	0	0
Dichlorophenoxyacetic acid, 2,4- (2,4-D)	94-75-7	13	2.18E-02	2.18E-02	NA	1	0	0	3	8.57E-04	8.57E-04	NA	1	0	0
Dieldrin	60-57-1	62	3.30E-04	9.56E+00	1.70E-03	27	13	11	15	2.90E-03	2.90E-03	5.00E-05	1	1	1
Disulfoton	298-04-4	13	0.00E+00	0.00E+00	NA	0	0	0	3	8.00E-06	8.00E-06	NA	1	0	0
Dursban (chlropyrifos)	2921-88-2	13	4.97E-04	2.28E-02	NA	3	0	0	3	0.00E+00	0.00E+00	NA	0	0	0

Table 4
Summary Statistics for Soil and Groundwater Data
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

		Soil							Water						
Analyte Name	CAS	n	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MQL (mg/kg)	Number of Detected Values	Number Exceeding Tier 1 Residential Critical PCL	Number Exceeding Tier 1 Commercial Critical PCL	n	Minimum Detected Value (mg/L)	Maximum Detected Value (mg/L)	Minimum MQL (mg/L)	Number of Detected Values	Number Exceeding Tier 1 Residential Critical PCL	Number Exceeding Tier 1 Commercial Critical PCL
Endosulfan I	959-98-8	49	3.20E-04	2.30E-03	1.70E-03	4	0	0	12	1.10E-04	1.50E-04	5.00E-05	2	0	0
Endosulfan II	33213-65-9	49	3.90E-04	2.60E+00	1.70E-03	21	0	0	12	0.00E+00	0.00E+00	5.00E-05	0	0	0
Endosulfan sulfate	1031-07-8	49	1.10E-03	1.70E+00	1.70E-03	4	0	0	12	1.80E-05	4.40E-05	5.00E-05	2	0	0
Endrin	72-20-8	62	2.24E-02	6.70E-01	1.70E-03	4	1	1	15	1.72E-03	5.20E-03	5.00E-05	2	1	1
Endrin aldehyde	7421-93-4	49	0.00E+00	0.00E+00	1.70E-03	0	0	0	12	0.00E+00	0.00E+00	5.00E-05	0	0	0
Endrin ketone	53494-70-5	62	6.90E-04	9.90E-01	1.70E-03	18	0	0	15	2.40E-05	7.90E-03	5.00E-05	4	1	0
Ethylbenzene	100-41-4	NS	NS	NS	NS	NS	NS	NS	9	1.90E-04	1.90E-04	1.00E-03	1	0	0
Ethylene Dibromide	106-93-4	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
gamma-Chlordane	5103-74-2	49	0.00E+00	0.00E+00	1.70E-03	0	0	0	12	0.00E+00	0.00E+00	5.00E-05	0	0	0
Heptachlor	76-44-8	49	2.70E-04	2.20E-02	1.70E-03	4	0	0	12	1.20E-05	2.30E-04	5.00E-05	3	0	0
Heptachlor epoxide	1024-57-3	49	1.30E-02	1.30E-02	1.70E-03	1	0	0	12	0.00E+00	0.00E+00	5.00E-05	0	0	0
Hexachlorobutadiene	87-68-3	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
Hexachlorocyclohexane, alpha (alpha-BHC)	319-84-6	62	5.10E-04	2.38E+00	1.70E-03	7	4	3	15	8.40E-05	8.40E-05	5.00E-05	1	0	0
Hexachlorocyclohexane, beta (beta-BHC)	319-85-7	62	1.80E-03	1.87E+00	1.70E-03	8	5	3	15	7.17E-04	1.40E-03	5.00E-05	2	2	1
Hexachlorocyclohexane, delta (delta-BHC)	319-86-8	62	2.10E-03	2.50E+00	1.70E-03	8	2	2	15	1.00E-05	4.90E-04	5.00E-05	5	0	0
Hexachlorocyclohexane, gamma (lindane; gam	58-89-9	62	7.70E-04	1.93E+00	1.70E-03	6	3	3	15	7.30E-05	1.10E-04	5.00E-05	3	0	0
Isopropylbenzene	98-82-8	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
Lead	7439-92-1	62	3.20E+00	1.02E+04	9.00E-01	62	20	20	6	3.00E-04	3.00E-04	9.00E-03	1	0	0
Malathion	121-75-5	13	1.60E-03	1.32E-02	NA	3	0	0	3	9.50E-05	1.83E-04	NA	3	0	0
Mercury	7439-97-6	62	6.20E-03	1.35E+00	1.70E-02	54	9	9	6	0.00E+00	0.00E+00	2.00E-04	0	0	0
Methoxychlor	72-43-5	49	0.00E+00	0.00E+00	3.30E-03	0	0	0	12	1.60E-03	1.60E-03	1.00E-04	1	0	0
Methyl tert-butyl ether	1634-04-4	NS	NS	NS	NS	NS	NS	NS	9	2.30E-03	2.30E-03	5.00E-03	1	0	0
Methylene Chloride	75-09-2	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	5.00E-03	0	0	0
m-Xylene & p-Xylene	179601-23-1	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	2.00E-03	0	0	0
Naphthalene	91-20-3	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
n-Butylbenzene	104-51-8	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
N-Propylbenzene	103-65-1	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
o-Xylene	95-47-6	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
Parathion (ethyl parathion)	56-38-2	13	4.31E-04	5.51E-02	NA	6	0	0	3	0.00E+00	0.00E+00	NA	0	0	0
sec-Butylbenzene	135-98-8	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
Selenium	7782-49-2	62	5.21E-01	1.56E+00	3.00E+00	5	3	3	6	3.80E-03	1.06E-02	1.50E-02	3	0	0
Silver	7440-22-4	62	1.45E-01	3.70E-01	1.00E+00	5	3	0	6	0.00E+00	0.00E+00	1.00E-02	0	0	0
Silvex	93-72-1	13	0.00E+00	0.00E+00	NA	0	0	0	3	1.88E-04	1.88E-04	NA	1	No PCL	No PCL
Styrene	100-42-5	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
tert-Butylbenzene	98-06-6	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
Tetrachloroethene	127-18-4	3	0.00E+00	0.00E+00	NA	0	0	0	12	4.40E-04	3.71E-03	1.00E-03	3	0	0
Toluene	108-88-3	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
Total Petroleum Hydrocarbons (C6-C35)	STL00006	NS	NS	NS	NS	NS	NS	NS	9	1.10E+00	1.10E+00	5.00E+00	1	No PCL	No PCL
Toxaphene	8001-35-2	62	2.10E-02	5.63E+02	1.70E-01	42	21	15	15	5.62E-03	9.63E-01	2.50E-03	5	5	5
TPH, TX1005, >C12-C28	TPH-1005-2	3	0.00E+00	0.00E+00	NA	0	0	0	3	0.00E+00	0.00E+00	NA	0	0	0
TPH, TX1005, >C28-C35	TPH-1005-4	3	0.00E+00	0.00E+00	NA	0	0	0	3	0.00E+00	0.00E+00	NA	0	0	0
TPH, TX1005, C6-C12	TPH-1005-1	3	0.00E+00	0.00E+00	NA	0	0	0	3	0.00E+00	0.00E+00	NA	0	0	0
trans-1,2-Dichloroethene	156-60-5	3	0.00E+00	0.00E+00	NA	0	0	0	12	2.40E-04	3.98E-03	1.00E-03	2	0	0
trans-1,3-Dichloropropene	10061-02-6	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.00E-03	0	0	0
Trichloroethene	79-01-6	3	0.00E+00	0.00E+00	NA	0	0	0	12	4.70E-04	9.42E-03	1.00E-03	2	1	1
Trichlorofluoromethane	75-69-4	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	2.00E-03	0	0	0
Trichlorophenoxyacetic acid, 2,4,5-	93-76-5	13	0.00E+00	0.00E+00	NA	0	0	0	3	1.38E-03	1.38E-03	NA	1	0	0
Vinyl chloride	75-01-4	NS	NS	NS	NS	NS	NS	NS	9	0.00E+00	0.00E+00	1.50E-03	0	0	0

Notes:
NS - Not sampled
Zeros - data below detection, no detects, no samples exceeded PCLs
NA - Not available

Table 5
Summary of Tier 1 Screening Results
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Analyte Name	CAS	Soil		Groundwater	
		Residential Use	Commercial/ Industrial Use	Residential Use	Commercial/ Industrial Use
1,1,1,2-Tetrachloroethane	630-20-6	NS	NS	All ND(2)	All ND(2)
1,1,1-Trichloroethane	71-55-6	NS	NS	All ND(2)	All ND(2)
1,1,2,2-Tetrachloroethane	79-34-5	NS	NS	All ND(2)	All ND(2)
1,1,2-Trichloroethane	79-00-5	NS	NS	All ND(2)	All ND(2)
1,1-Dichloroethane	75-34-3	NS	NS	All ND(2)	All ND(2)
1,1-Dichloroethene	75-35-4	NS	NS	All ND(2)	All ND(2)
1,1-Dichloropropene	563-58-6	NS	NS	All ND(2)	All ND(2)
1,2,3-Trichlorobenzene	87-61-6	NS	NS	All ND(2)	All ND(2)
1,2,3-Trichloropropane	96-18-4	NS	NS	All ND(3)	All ND(3)
1,2,4-Trichlorobenzene	120-82-1	NS	NS	All ND(2)	All ND(2)
1,2,4-Trimethylbenzene	95-63-6	NS	NS	All ND(2)	All ND(2)
1,2-Dibromo-3-Chloropropane	96-12-8	NS	NS	All ND(3)	All ND(3)
1,2-Dichlorobenzene	95-50-1	NS	NS	All ND(2)	All ND(2)
1,2-Dichloroethane	107-06-2	NS	NS	All ND(2)	All ND(2)
1,2-Dichloropropane	78-87-5	NS	NS	All ND(2)	All ND(2)
1,3,5-Trimethylbenzene	108-67-8	NS	NS	All ND(2)	All ND(2)
1,3-Dichlorobenzene	541-73-1	NS	NS	All ND(2)	All ND(2)
1,3-Dichloropropane	142-28-9	NS	NS	All ND(2)	All ND(2)
1,4-Dichlorobenzene	106-46-7	NS	NS	All ND(2)	All ND(2)
2,2-Dichloropropane	594-20-7	NS	NS	All ND(2)	All ND(2)
2-Butanone (MEK)	78-93-3	NS	NS	All ND(2)	All ND(2)
2-Chlorotoluene	95-49-8	NS	NS	All ND(2)	All ND(2)
2-Hexanone	591-78-6	NS	NS	All ND(2)	All ND(2)
4-Chlorotoluene	106-43-4	NS	NS	All ND(2)	All ND(2)
4-Isopropyltoluene	99-87-6	NS	NS	All ND(2)	All ND(2)
4-Methyl-2-pentanone (MIBK)	108-10-1	NS	NS	All ND(2)	All ND(2)
Acetone	67-64-1	NS	NS	<PCL	<PCL
Aldrin	309-00-2	All ND(1)	All ND(1)	>PCL	>PCL
alpha-Chlordane	5103-71-9	All ND(1)	All ND(1)	All ND(1)	All ND(1)
Arsenic	7440-38-2	>PCL	>PCL	<PCL	<PCL
Barium	7440-39-3	>PCL	>PCL	<PCL	<PCL
Benzene	71-43-2	NS	NS	All ND(2)	All ND(2)
Bromobenzene	108-86-1	NS	NS	All ND(2)	All ND(2)
Bromoform	75-25-2	NS	NS	All ND(2)	All ND(2)
Bromomethane	74-83-9	NS	NS	All ND(2)	All ND(2)
C6-C35	(blank)	All ND(2)	All ND(2)	All ND(2)	All ND(2)
Cadmium	7440-43-9	>PCL	>PCL	All ND(2)	All ND(2)
Carbon disulfide	75-15-0	NS	NS	<PCL	<PCL
Carbon tetrachloride	56-23-5	NS	NS	All ND(2)	All ND(2)
Chlorobenzene	108-90-7	NS	NS	All ND(2)	All ND(2)
Chlorobromomethane	74-97-5	NS	NS	All ND(2)	All ND(2)
Chlorodibromomethane	124-48-1	NS	NS	All ND(2)	All ND(2)
Chloroethane	75-00-3	NS	NS	All ND(2)	All ND(2)
Chloroform	67-66-3	NS	NS	<PCL	<PCL
Chloromethane	74-87-3	NS	NS	All ND(2)	All ND(2)
Chromium	7440-47-3	<PCL	<PCL	<PCL	<PCL
cis-1,2-Dichloroethene	156-59-2	All ND(2)	All ND(2)	All ND(2)	All ND(2)
cis-1,3-Dichloropropene	10061-01-5	NS	NS	All ND(2)	All ND(2)
DDD	72-54-8	<PCL	<PCL	<PCL	<PCL
DDE	72-55-9	>PCL	>PCL	All ND(1)	All ND(1)
DDT	50-29-3	>PCL	>PCL	<PCL	<PCL
Dibromomethane	74-95-3	NS	NS	All ND(2)	All ND(2)
Dicamba	1918-00-9	All ND(1)	All ND(1)	<PCL	<PCL
Dichlorobromomethane	75-27-4	NS	NS	All ND(2)	All ND(2)
Dichlorodifluoromethane	75-71-8	NS	NS	All ND(2)	All ND(2)
Dichlorophenoxyacetic acid, 2,4- (2,4-D)	94-75-7	<PCL	<PCL	<PCL	<PCL
Dieldrin	60-57-1	>PCL	>PCL	>PCL	>PCL
Disulfoton	298-04-4	All ND(1)	All ND(1)	<PCL	<PCL
Dursban (chlropyrifos)	2921-88-2	<PCL	<PCL	All ND(1)	All ND(1)

Table 5
Summary of Tier 1 Screening Results
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Analyte Name	CAS	Soil		Groundwater	
		Residential Use	Commercial/ Industrial Use	Residential Use	Commercial/ Industrial Use
Endosulfan I	959-98-8	<PCL	<PCL	<PCL	<PCL
Endosulfan II	33213-65-9	<PCL	<PCL	All ND(1)	All ND(1)
Endosulfan sulfate	1031-07-8	<PCL	<PCL	<PCL	<PCL
Endrin	72-20-8	>PCL	>PCL	>PCL	>PCL
Endrin aldehyde	7421-93-4	All ND(1)	All ND(1)	All ND(1)	All ND(1)
Endrin ketone	53494-70-5	<PCL	<PCL	>PCL	<PCL
Ethylbenzene	100-41-4	NS	NS	<PCL	<PCL
Ethylene Dibromide	106-93-4	NS	NS	All ND(3)	All ND(3)
gamma-Chlordane	5103-74-2	All ND(1)	All ND(1)	All ND(1)	All ND(1)
Heptachlor	76-44-8	<PCL	<PCL	<PCL	<PCL
Heptachlor epoxide	1024-57-3	<PCL	<PCL	All ND(1)	All ND(1)
Hexachlorobutadiene	87-68-3	NS	NS	All ND(1)	All ND(1)
Hexachlorocyclohexane, alpha (alpha-BHC)	319-84-6	>PCL	>PCL	<PCL	<PCL
Hexachlorocyclohexane, beta (beta-BHC)	319-85-7	>PCL	>PCL	>PCL	>PCL
Hexachlorocyclohexane, delta (delta-BHC)	319-86-8	>PCL	>PCL	<PCL	<PCL
Hexachlorocyclohexane, gamma (lindane; gamm	58-89-9	>PCL	>PCL	<PCL	<PCL
Isopropylbenzene	98-82-8	NS	NS	All ND(2)	All ND(2)
Lead	7439-92-1	>PCL	>PCL	<PCL	<PCL
Malathion	121-75-5	<PCL	<PCL	<PCL	<PCL
Mercury	7439-97-6	>PCL	>PCL	All ND(2)	All ND(2)
Methoxychlor	72-43-5	All ND(1)	All ND(1)	All ND(1)	All ND(1)
Methyl tert-butyl ether	1634-04-4	NS	NS	<PCL	<PCL
Methylene Chloride	75-09-2	NS	NS	All ND(2)	All ND(2)
m-Xylene & p-Xylene	179601-23-1	NS	NS	All ND(2)	All ND(2)
Naphthalene	91-20-3	NS	NS	All ND(2)	All ND(2)
n-Butylbenzene	104-51-8	NS	NS	All ND(2)	All ND(2)
N-Propylbenzene	103-65-1	NS	NS	All ND(2)	All ND(2)
o-Xylene	95-47-6	NS	NS	All ND(2)	All ND(2)
Parathion (ethyl parathion)	56-38-2	<PCL	<PCL	All ND(1)	All ND(1)
sec-Butylbenzene	135-98-8	NS	NS	All ND(2)	All ND(2)
Selenium	7782-49-2	>PCL	>PCL	<PCL	<PCL
Silver	7440-22-4	>PCL	<PCL	All ND(2)	All ND(2)
Silvex	93-72-1	All ND(1)	All ND(1)	No PCL	No PCL
Styrene	100-42-5	NS	NS	All ND(2)	All ND(2)
tert-Butylbenzene	98-06-6	NS	NS	All ND(2)	All ND(2)
Tetrachloroethene	127-18-4	All ND(2)	All ND(2)	<PCL	<PCL
Toluene	108-88-3	NS	NS	All ND(2)	All ND(2)
Total Petroleum Hydrocarbons (C6-C35)	STL00006	NS	NS	No PCL	No PCL
Toxaphene	8001-35-2	>PCL	>PCL	>PCL	>PCL
TPH, TX1005, >C12-C28	TPH-1005-2	All ND(2)	All ND(2)	All ND(2)	All ND(2)
TPH, TX1005, >C28-C35	TPH-1005-4	All ND(2)	All ND(2)	All ND(2)	All ND(2)
TPH, TX1005, C6-C12	TPH-1005-1	All ND(2)	All ND(2)	All ND(2)	All ND(2)
trans-1,2-Dichloroethene	156-60-5	All ND(2)	All ND(2)	<PCL	<PCL
trans-1,3-Dichloropropene	10061-02-6	NS	NS	All ND(2)	All ND(2)
Trichloroethene	79-01-6	All ND(1)	All ND(1)	>PCL	>PCL
Trichlorofluoromethane	75-69-4	NS	NS	All ND(2)	All ND(2)
Trichlorophenoxyacetic acid, 2,4,5-	93-76-5	All ND(1)	All ND(1)	<PCL	<PCL
Vinyl chloride	75-01-4	NS	NS	All ND(2)	All ND(2)

Notes:

All ND (1) - The COC is known or is reasonably anticipated to be associated with historical or current activities conducted at the on-site property, but the COC is not detected in any sample in the environmental medium, and all sample detection limits for the COC are less than the residential assessment level for the environmental medium.

All ND(2) - The COC is not known or is not reasonably anticipated to be associated with historical or current activities conducted at the on-site property, and is not detected in any sample in the environmental medium.

All ND(3) - The MQL is the critical PCL

Table 6
Screening Evaluation with Maxima and UCL95 Values
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

		Soil						
Analyte	**CAS**	**Maximum Detected Value**	**Residential Risk Ratio**	**Commercial/ Industrial Risk Ratio**	**UCL95**	**UCL Description**	**Residential Risk Ratio**	**Commercial/ Industrial Risk Ratio**
Arsenic	7440-38-2	968	***164***	***96800***	197.94	95% KM (Chebyshev) UCL	***34***	***34***
Barium	7440-39-3	400	1	1	138.7	95% KM (BCA) UCL	0.5	0.5
Cadmium	7440-43-9	3.2	***4***	***4***	0.77	95% KM (Chebyshev) UCL	1	1
DDE	72-55-9	24	***4***	***2***	4.56	95% KM (Chebyshev) UCL	1	0.3
DDT	50-29-3	47.6	***9***	***3***	10.44	99% KM (Chebyshev) UCL	***2***	1
Dieldrin	60-57-1	9.56	***391***	***175***	2.56	97.5% KM (Chebyshev) UCL	***105***	***47***
Endrin	72-20-8	0.67	***2***	***2***	0.31	95% KM (Percentile Bootstrap) UCL	1	1
Hexachlorocyclohexane, alpha (alpha-BHC)	319-84-6	2.38	***601***	***268***	0.13	95% KM (t) UCL	***33***	***15***
Hexachlorocyclohexane, beta (beta-BHC)	319-85-7	1.87	***129***	***58***	0.41	99% KM (Chebyshev) UCL	***29***	***13***
Hexachlorocyclohexane, delta (delta-BHC)	319-86-8	2.5	***29***	***13***	0.55	99% KM (Chebyshev) UCL	***6***	***3***
Hexachlorocyclohexane, gamma (lindane; gamma-BHC)	58-89-9	1.93	***422***	***422***	0.11	95% KM (t) UCL	***23***	***23***
Lead	7439-92-1	10200	***680***	***680***	895.5	95% KM (Chebyshev) UCL	***60***	***60***
Mercury	7439-97-6	1.345	***34***	***34***	0.15	95% KM (Chebyshev) UCL	***4***	***4***
Selenium	7782-49-2	1.56	1	1	1.45	95% KM (Percentile Bootstrap) UCL	1	1
Silver	7440-22-4	0.37	***2***	1	0.30	95% KM (Percentile Bootstrap) UCL	1	0.4
Toxaphene	8001-35-2	563	***454***	***98***	108.64	97.5% KM (Chebyshev) UCL	***88***	***19***
Trichloroethylene	79-01-6	NA	NA	NA	NA	Number of detects<4	NA	NA

		Groundwater						
Analyte	**CAS**	**Maximum Detected Value**	**Residential Risk Ratio**	**Commercial/ Industrial Risk Ratio**	**UCL95**	**UCL Description**	**Residential Risk Ratio**	**Commercial/ Industrial Risk Ratio**
Aldrin	309-00-2	0.00014	***3***	1	NA	Number of detects<4	NA	NA
Dieldrin	60-57-1	0.0029	***51***	***23***	NA	Number of detects<4	NA	NA
Endrin	72-20-8	0.0052	***3***	***3***	NA	Number of detects<4	NA	NA
Endrin Ketone	53494-70-5	0.0079	1	0.4	0.0045	95% KM (t)(Percentile Bootstrap) UCL	1	0.2
Hexachlorocyclohexane, beta (beta-BHC)	319-85-7	0.0014	***3***	1	NA	Number of detects<4	NA	NA
Toxaphene	8001-35-2	0.963	***321***	***321***	0.21	95% KM (Percentile Bootstrap) UCL	***70***	***70***
Trichloroethylene	79-01-6	0.0094	***2***	***2***	NA	Number of detects<4	NA	NA

Notes:
UCLs not calculated unless there were at least 4 detected values. When more than one UCL was recommended by ProUCL, the highest value was chose. Note that ProUCL considers any number of detects less than 10 to be uncertain.
The reporting limits were used to represent the nondetected data for UCL estimation.
All data were combined by depth and date for each media for UCLs
NA - Not applicable
Bold italics - risk ratio exceeds 1

Table 7
Physical and Chemical Parameters
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Analyte	Gastroin-testinal Absorption Factor	Dermal Absorption Factor	Molecular Weight (g/mol)	Henry's Law (dimen-sionless)	Henry's Law (atm-m3/mol)	Diffusivity in Air (cm2/s)	Diffusivity in Water (cm2/s)	Effective Diffusion Coefficient Above Water Table (cm^2/s)	Effective Diffusion Coefficient in Capillary Fringe (cm^2/s)	Effective Diffusion Coefficient in Vadose Zone Soils (cm^2/s)	Apparent Diffusivity (cm^2/s)	Soil Water Partition Coefficient (unitless or cm3/g)	Organic Carbon Soil Water Partition Coefficient (unitless)	Soil Water Partioning (kg/L)	Solubility (mg/L)
	ABS_{GI}	ABSd	MW	H'	H	Dair	Dwat	D^{eff}_{ws}	D^{eff}_{cap}	D^{eff}_{s}	D_A	Kd	Koc	Ksw	S
PESTICIDES (8081A)															
DDE	7.00E-01	1.00E-01	241.93	8.73E-04	2.10E-05	1.44E-02	5.87E-06	1.23E-03	1.61E-03	1.22E-03	3.93E-10	1.62E+03	1.10E+05	6.18E-04	6.50E-02
DDT	7.00E-01	3.00E-02	354.49	2.23E-03	5.37E-05	1.37E-02	4.95E-06	4.05E-04	5.31E-04	4.01E-04	2.65E-10	2.03E+03	1.37E+05	4.94E-04	3.10E-03
Dieldrin	5.00E-01	1.00E-01	380.91	1.11E-04	2.67E-06	1.25E-02	4.74E-06	7.79E-03	1.02E-02	7.73E-03	1.63E-09	3.15E+02	2.14E+04	3.17E-03	1.95E-01
Toxaphene	5.00E-01	1.00E-01	413.81	1.40E-04	3.36E-06	1.16E-02	4.34E-06	5.67E-03	7.41E-03	5.62E-03	3.33E-10	1.41E+03	9.58E+04	7.07E-04	7.40E-01
Hexachlorocyclohexane, alpha (alpha-BHC)	9.70E-01	4.00E-02	290.83	2.82E-04	6.79E-06	1.42E-02	7.34E-06	4.74E-03	6.20E-03	4.70E-03	4.05E-08	1.94E+01	1.32E+03	5.09E-02	2.00E+00
Hexachlorocyclohexane, beta (beta-BHC)	9.10E-01	4.00E-02	290.83	1.44E-05	3.46E-07	1.42E-02	7.34E-06	9.31E-02	1.22E-01	9.23E-02	3.87E-08	2.04E+01	1.38E+03	4.87E-02	5.42E-01
Hexachlorocyclohexane, delta (delta-BHC)	5.00E-01	4.00E-02	290.83	1.77E-04	4.26E-06	4.50E-02	6.20E-06	6.39E-03	8.36E-03	6.34E-03	5.34E-09	1.26E+02	8.51E+03	7.95E-03	2.59E+00
Hexachlorocyclohexane, gamma (lindane; gamma-BHC)	9.70E-01	4.00E-02	290.83	1.41E-04	3.39E-06	1.42E-02	7.34E-06	9.50E-03	1.24E-02	9.42E-03	4.86E-08	1.62E+01	1.10E+03	6.11E-02	5.75E+00
VOCs (8260B)															
Trichloroethylene	1.00E+00	0.00E+00	131.39	4.282E-01	1.03E-02	7.90E-02	9.10E-06	6.11E-06	1.76E-05	5.98E-06	9.79E-07	1.38E+00	9.333E+01	6.39E-01	1.10E+03
METALS & CORROSIVITY (RCRA 8)															
Arsenic	9.50E-01	3.00E-02	74.92	NV	NA	NV	NV	NA	NA	NA	NV	2.50E+01	NA	3.97E-02	NV
Barium	7.00E-02	NV	137.33	NV	NA	NV	NV	NA	NA	NA	NV	1.10E+01	NA	8.94E-02	NV
Cadmium	2.50E-02	1.00E-03	112.41	NV	NA	NV	NV	NA	NA	NA	NV	1.50E+01	NA	6.59E-02	NV
Lead (inorganic)	1.50E-01	NV	207.20	NV	NA	NV	NV	NA	NA	NA	NV	1.83E+03	NA	5.46E-04	NV
Mercury (pH = 4.9)	7.00E-02	NV	200.59	4.74E-01	1.14E-02	3.07E-02	6.30E-06	3.30E-06	8.03E-06	3.23E-06	3.99E-06	4.00E-02	NA	4.35E+00	3.00E-02
Selenium	5.00E-01	NV	78.96	NV	NA	NV	NV	NA	NA	NA	NV	2.20E+00	NA	4.20E-01	NV
Silver	4.00E-02	NV	107.87	NV	NA	NV	NV	NA	NA	NA	NV	1.00E-01	NA	3.53E+00	NV

Source:

Gastrointestinal Absorption Factor (ABSGI) -trrptoxchph_033110.xls]absd-gi.xls
Dermal Absorption Factor (ABSdO- trrptoxchph_033110.xls]absd-gi.xls; EPA (2010a) where differs from TCEQ (shaded cells)
Molecular Weight (MW) -trrptoxchph_033110.xls]chemphys-trrp.xls
Henry's Law [H'] (dimensionless) - trrptoxchph_033110.xls]chemphys-trrp.xls
*Henry's Law [H] (atm-m3/mol) - estimated as H'*R*T*
Diffusivity in Air (Dair) -trrptoxchph_033110.xls]chemphys-trrp.xls
Diffusivity in Water (Dwat) -trrptoxchph_033110.xls]chemphys-trrp.xls
Log Octanol-Water Partition Coefficient-trrptoxchph_033110.xls]chemphys-trrp.xls
Effective Diffusion Coefficient Above the Water Table (D^{eff}_{ws}) (cm^2/s) - Calculated with Tier 2 Groundwater Volatilization PCL Equation $^{Air}GW_{Inh\text{-}V}$
Effective Diffusion Coefficient in Capillary Fringe (D^{eff}_{cap}) (cm^2/s) - Calculated with Tier 2 Groundwater Volatilization PCL Equation $^{Air}GW_{Inh\text{-}V}$
Effective Diffusion Coefficient in Vadose Zone Soils (D^{eff}_{s}) (cm^2/s) - Calculated with Tier 2 Groundwater Volatilization PCL Equation $^{Air}GW_{Inh\text{-}V}$
Apparent Diffusivity (D_A) - Calculated with Tier 2 Soil to Groundwater PCL Equation for VF_{ss}
Soil Water Partition Coefficient (Kd) (dimensionless) - trrptoxchph_033110.xls]chemphys-trrp.xls
Organic Carbon Soil Water Partition Coefficient (Koc) (dimensionless) - trrptoxchph_033110.xls]chemphys-trrp.xls
Soil Water Partition Coefficient (Kws) (L/kg) - Calculated with Tier 2 Soil to Groundwater PCL Equation

Notes:

NA - Not applicable
NV - No value available
Where the gastrointestinal absorption fraction is less than 50%, the oral slope factor and oral reference dose can be adjusted using equation RBEL-2 (350.74 (j)(1)A

Table 8
Site-Specific Natural Attenuation Modeling Parameters
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Parameter	Abbreviation	Units	Value, Tier I	Value, Tier II	Tier II Source
Vertical groundwater dispersivity	(α_v)	(m)	NA	0.34	TCEQ. 2000. Tier 2 PCL Equations, 3/24/00; Based on equation 0.0056*Ws
Aquifer thickness	(b_{gw})	(m)	NA	15	Site Specific value 15; TCEQ uses 10
Diffusivity in Air	(D^{air})	(cm^2/s)	Varies	Varies	Chemical specific; Table 7
Effective Diffusion Coefficient in Capillary Fringe	(D^{eff}_{cap})	(cm^2/s)	Varies	Varies	Chemical specific; Table 7
Effective Diffusion Coefficient in Vadose Zone Soils	(D^{eff}_{s})	(cm^2/s)	Varies	Varies	Chemical specific; Table 7
Effective Diffusion Coefficient Above Water Table	(D^{eff}_{WS})	(cm^2/s)	Varies	Varies	Chemical specific; Table 7
Exposure Interval	τ	s	9.50E+08	1.00E+09	Use Tier 1. Need to change from 9.5E8 to 1E9 to reduce differences with TCEQ comments.
Fraction Organic Carbon surface soil (used in GW Ksw eqn)	(foc)	(g/g)	0.002	0.015	Site specific, measured, avg value.
Fraction Organic Carbon vadose zone soils (used in DA calculation)	(foc)	(g/g)	0.008	0.015	Site specific, measured, avg value.
Soil-water partition coefficient	(Kd)	(cm/g)	Varies	Varies	Chemical specific; Table 7
Ambient mixing zone height	(δ_{air})	(cm)	200	200	Use Tier 1
Groundwater mixing zone thickness	(δ_{gw})	(m)	NA	15.46	TCEQ. 2000. Tier 2 PCL Equations, 3/24/00.
Net infiltration rate	(I_f)	(cm/y)	NA	1.51	TCEQ. 2000. Tier 2 PCL Equations, 3/24/00. Use clay equation =0.00018*(P^2) = x Page 5. TRRP 350.75(c) and (d). TCEQ default was 1.34 from C. Stone comments.
Diffusivity in Water	(D^{wat})	(cm^2/s)	Varies	Varies	Chemical specific, Use Tier 1
Thickness of capillary fringe (cm)	(hcap)	(cm)	5	25	Estimated from estimate of vadose zone thickness and depth to groundwater
Thickness of vadose zone (cm)	(hv)	(cm)	300	724	Site specific, measured, avg value
Hydraulic conductivity	(K)	(m/d)	NA	0.037	Site avg (cm/s)*864 m-s-min-h/cm-min-hr-d
Hydraulic gradient	(i)	(m/m)	NA	0.005	Site specific estimated from 5'/1000' from potentiometric surface map of site.
Organic carbon partition coefficient	(Koc)	(L/kg)	Varies	Varies	Chemical specific, Use Tier 1
Thickness of affected surficial soil [1]	(L1 and ds)	(cm)	3.050E+02	152.4	Estimate from site data (site specific was 5*12*2.54)
Depth to groundwater (hcap+hv) [1]	(Lgw and L2)	(cm)	305	749	Estimate from site data for contamination at different soil depths
Lateral dilution factor	(LDF)	unitless	10	2.09	TCEQ. 2000. Tier 2 PCL Equations, 3/24/00
Particulate Emission Factor	(PEF)	(m^3/kg)	1.08E-09	1.08E-09	Use Tier 1
Mean annual precipitation	(P)	(cm/y)	NA	91.44	Kenneth E. Austin, "HILL COUNTY," The Handbook of Texas Online. December 12, 2010
Inverse of the ratio of the geometric mean	(Q/C)	(g/m -s per kg/m)	40.760	79.250	Use Tier 1 for a 0.5 ac source value 79.25 per TCEQ comments
Effective Soil Porosity	(θ_e)		NA	0.280	Site-specific. Average of three soil samples (not including Geo-3).
Volumetric Air Content in Capillary Fringe Soils	(θ_{acap})	(cm^3/cm^3; L_{air}/L_{soil})	0.037	0.037	No capillary zone data collected; use default
Volumetric air content of vadose zone soils	(θ_{as})	(cm^3/cm^3; L_{air}/L_{soil})	0.210	0.022	Site specific, measured,estimated from total porosity - water-filled porosity.
Total soil porosity	(θ_T)	(cm^3/cm^3; L_{water}/L_{soil})	0.370	0.328	Site specific, measured, avg value.
Volumetric Water Content in Capillary Zone Soils	(θ_{wcap})	(cm^3/cm^3; L_{air}/L_{soil})	0.333	0.333	No capillary zone data collected; use default
Volumetric Water Content of Vadose Zone Soils	(θ_{ws})	(cm^3/cm^3; L_{water}/L_{soil})	0.160	0.307	Site specific, measured, avg value.
Dry soil bulk density	(ρb)	(g/cm^3)	1.670	1.670	Use Tier 1
Soil particle density	(ρ_s)	(g/cm^3)	2.650	2.650	Use Tier 1
Ideal gas constant	(R)	(atm-m3/mole-K)	8.21E-05	8.21E-05	Use Tier 1
Temperature	(T)	(K)	293	293	Use Tier 1
Time since release	(t)	(d)	NA	10950	Assumed 30 years
Wind speed above ground surface in ambient mixing zone (cm/s)	(U_{air})	(cm/s)	240	240	Use Tier 1
Groundwater Darcy velocity	(U_{gw})	(cm/y)	NA	6.7	TCEQ. 2000. Tier 2 PCL Equations, 3/24/00 Calculated as =K (m/d) *I (m/m) *365 (d/y)*100 (cm/m) =E$23*E$24*36500 = 1390.7. TCEQ used 1.4 as a default.
Groundwater seepage velocity	(v_w)	(m/d)	NA	19.89	TCEQ. 2000. Tier 2 PCL Equations, 3/24/00 . Page 3. vw=K*i/ θe
Width of source area in Direction to Closest Off-Site Property from Groundwater Source - 30 ac source	(Wg)	(cm)	34800	19756	Approximated from site map (Figure 5)
Lateral width of affected vadose zone in direction of groundwater flow	(Ws)	(m)	NA	60.96	Approximated as 200' from site map (Figure 5)

1 - the parameter ds was used to represent L1, and the Lgw was used to represent L2, depth from top of affected soil to groundwater table
Shaded cell - cannot be changed under TRPP

Table 9
RBELs Used in Tier 2 PCLs
Targeted Brownfields Assessment Phase II Environmental Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Analyte	Residential												Commercial/Industrial					
	Carcinogenic						Noncarcinogenic						Carcinogenic			Noncarcinogenic		
	$^{Air}RBEL_{Inh}$ (mg/m3)	$^{GW}RBEL_{Ing}$ (mg/L)	$^{Soil}RBEL_{Ing}$ (mg/kg)	$^{Soil}RBEL_{Derm}$ (mg/kg)	$^{AbgVeg}RBEL_{Ing}$ (mg/kg)	$^{BgVeg}RBEL_{Ing}$ (mg/kg)	$^{Air}RBEL_{Inh}$ (mg/m3)	$^{GW}RBEL_{Ing}$ (mg/L)	$^{Soil}RBEL_{Ing}$ (mg/kg)	$^{Soil}RBEL_{Derm}$ (mg/kg)	$^{AbgVeg}RBEL_{Ing}$ (mg/kg)	$^{BgVeg}RBEL_{Ing}$ (mg/kg)	$^{Air}RBEL_{Inh}$ (mg/m3)	$^{Soil}RBEL_{Ing}$ (mg/kg)	$^{Soil}RBEL_{Derm}$ (mg/kg)	$^{Air}RBEL_{Inh}$ (mg/m3)	$^{Soil}RBEL_{Ing}$ (mg/kg)	$^{Soil}RBEL_{Derm}$ (mg/kg)
PESTICIDES (8081A)																		
DDE	NV	2.7E-03	1.8E+01	2.0E+02	NA - nonmetal	1.7E+00	NV	NV	NV	NV	NV	NV	NV	8.4E+01	5.6E+02	NV	NV	NV
DDT	2.5E-04	2.7E-03	1.8E+01	2.0E+02	NA - nonmetal	1.7E+00	NV	1.2E-02	4.1E+01	5.9E+02	NV	7.8E+00	4.2E-04	8.4E+01	5.6E+02	NV	5.1E+02	3.4E+03
Dieldrin	5.3E-06	5.7E-05	3.8E-01	1.3E+00	NA - nonmetal	3.7E-02	NV	1.2E-03	4.1E+00	1.8E+01	NV	7.8E-01	8.9E-06	1.8E+00	3.6E+00	NV	5.1E+01	1.0E+02
Toxaphene	7.6E-05	NV	5.5E+00	1.9E+01	NA - nonmetal	5.3E-01	NV	NV	NV	NV	NV	NV	1.3E-04	2.6E+01	5.2E+01	NV	NV	NV
Hexachlorocyclohexane, alpha (alpha-BHC)	1.4E-05	1.4E-04	9.6E-01	8.2E+00	NA - nonmetal	9.3E-02	NV	2.0E-01	6.6E+02	7.1E+03	NV	1.3E+02	2.3E-05	4.5E+00	2.3E+01	NV	8.2E+03	4.1E+04
Hexachlorocyclohexane, beta (beta-BHC)	4.6E-05	5.1E-04	3.4E+00	2.9E+01	NA - nonmetal	3.2E-01	NV	NV	NV	NV	NV	NV	7.7E-05	1.6E+01	7.9E+01	NV	NV	NV
Hexachlorocyclohexane, delta (delta-BHC)	4.8E-05	5.1E-04	3.4E+00	2.9E+01	NA - nonmetal	NV	NV	7.3E-03	2.5E+01	2.7E+02	NV	NV	8.0E-05	1.6E+01	7.9E+01	NV	3.1E+02	1.5E+03
Hexachlorocyclohexane, gamma (lindane; gamma-BHC)	NV	NV	4.7E+00	4.0E+01	NA - nonmetal	4.5E-01	5.2E-04	NV	2.5E+01	2.7E+02	NV	4.7E+00	NV	2.2E+01	1.1E+02	7.3E-04	3.1E+02	1.5E+03
VOCs (8260B)																		
Trichloroethylene	1.2E-02	NV	4.7E+02	NA - VP>1	NA - nonmetal	NA-H>0.03 &Log Kow<4	1.0E-02	NV	4.9E+02	NA - VP>1	NV	NV	2.0E-02	2.2E+03	NV	1.5E-02	6.1E+03	NV
METALS & CORROSIVITY (RCRA 8)																		
Arsenic	5.7E-06	NV	5.2E+01	4.6E+02	1.7E+00	3.9E+00	NV	NV	3.1E+01	3.6E+02	2.0E+00	4.7E+00	9.5E-06	2.4E+02	1.3E+03	NV	3.9E+02	2.0E+03
Barium	NV	NV	NV	NV	NV	NV	5.2E-04	NV	1.6E+04	5.0E+04	1.3E+03	3.1E+03	NV	NV	NV	7.3E-04	2.0E+05	2.9E+05
Cadmium	1.4E-05	NV	NV	NV	NV	NV	NV	NV	2.6E+02	2.2E+03	1.1E+01	2.5E+01	2.3E-05	NV	NV	NV	1.0E+03	5.1E+03
Lead (inorganic)	NV	NV	NV	NV	NV	NV	NV	NV	5.0E+02	NV	NV	NV	NV	NV	NV	NV	1.6E+03	NV
Mercury (pH = 4.9)	NV	NV	NV	NV	NV	NV	3.1E-04	NV	2.5E+01	7.5E+01	2.0E+00	NV	NV	NV	NV	4.4E-04	3.1E+02	4.3E+02
Selenium	NV	NV	NV	NV	NV	NV	2.1E-04	NV	4.1E+02	1.8E+04	3.3E+01	7.8E+01	NV	NV	NV	2.9E-04	5.1E+03	1.0E+05
Silver	NV	NV	NV	NV	NV	NV	1.0E-05	1.2E-01	4.1E+02	7.1E+02	3.3E+01	7.8E+01	NV	NV	NV	1.5E-05	5.1E+03	4.1E+03

All values for a 30 ac source size where source size applicable
NA- Not applicable
NV - No value
Residential RBELs - TCEQ (2010) Table 9
Commercial RBELS - TCEQ (2010) Table 10
VP- Vapor pressure
Shaded cells - hardness of 50 mg/L used in lieu of site-specific information per Implementation Procedures, June 2010
Metal conc. are dissolved
H - Henry's Law

Table 10
Volatilization Factors Used In Tier 2 PCLs
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

	Volatilization Factor (kg/m3) VFss	GW Volatilization Factor (L/m3) VFwamb
PESTICIDES (8081A)		
DDE	2.90E-07	5.88E-07
DDT	2.38E-07	4.97E-07
Dieldrin	5.90E-07	4.75E-07
Toxaphene	2.67E-07	4.35E-07
Hexachlorocyclohexane, alpha (alpha-BHC)	2.94E-06	7.36E-07
Hexachlorocyclohexane, beta (beta-BHC)	2.88E-06	7.36E-07
Hexachlorocyclohexane, delta (delta-BHC)	1.07E-06	6.21E-07
Hexachlorocyclohexane, gamma (lindane; gamma-BHC)	3.22E-06	7.36E-07
VOCs (8260B)		
Trichloroethylene	1.45E-05	1.44E-06
METALS & CORROSIVITY (RCRA 8)		
Arsenic	NA	NA
Barium	NA	NA
Cadmium	NA	NA
Lead (inorganic)	NA	NA
Mercury (pH = 4.9)	2.92E-05	8.59E-07
Selenium	NA	NA
Silver	NA	NA

Source:

VFwamb - Tier 1 PCL Equations for GW Volatilization PCL AirGWInh-V, TRRP 350.75(b)(1) and TRRP 350.75(i)(3) Texas Commission on Environmental Quality 2009. Chapter 350 - Texas Risk Reduction Program SUBCHAPTER D: DEVELOPMENT OF PROTECTIVE CONCENTRATION LEVELS §§350.71 - 350.79 Effective March 19, 2009. Page 55.

NA - Not applicable as analyte is not considered volatile

Table 11
Tier 2 PCLs for Commercial Industrial Worker Scenario
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Analyte	Commercial/Industrial														Critical Soil PCL (mg/kg)	Critical GW PCL (mg/kg)
	Carcinogenic						Noncarcinogenic						$^{GW}GW_{Ing}$ (mg/L)	GW PCL Basis		
	$^{Tot}SOIL_{Comb}$ (mg/kg)	$^{Air}SOIL_{Inh-V}$ (mg/kg)	$^{Soil}Soil_{Derm}$ (mg/kg)	$^{Soil}Soil_{Ing}$ (mg/kg)	$^{GW}Soil_{Ing}$ (mg/kg)	$^{Air}GW_{Inh-V}$ (mg/L)	$^{Tot}SOIL_{Comb}$ (mg/kg)	$^{Air}SOIL_{Inh-V}$ (mg/kg)	$^{Soil}Soil_{Derm}$ (mg/kg)	$^{Soil}Soil_{Ing}$ (mg/kg)	$^{GW}Soil_{Ing}$ (mg/kg)	$^{Air}GW_{Inh-V}$ (mg/L)				
PESTICIDES (8081A)																
DDE	7.3E+01	No RBEL	5.6E+02	8.4E+01	1.0E+02	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	6.0E-03	c	7.3E+01	6.0E-03
DDT	7.0E+01	1.8E+03	5.6E+02	8.4E+01	1.3E+02	8.5E+02	4.4E+02	No RBEL	3.4E+03	5.1E+02	7.6E+02	No RBEL	6.0E-03	c	7.0E+01	6.0E-03
Dieldrin	1.1E+00	1.5E+01	3.6E+00	1.8E+00	4.1E-01	1.9E+01	3.4E+01	No RBEL	1.0E+02	5.1E+01	1.2E+01	No RBEL	1.3E-04	c	4.1E-01	1.3E-04
Toxaphene	1.7E+01	4.8E+02	5.2E+01	2.6E+01	No RBEL	2.9E+02	No RBEL	No RBEL	No RBEL	No RBEL	4.4E+01	No RBEL	3.0E-03	m	1.7E+01	3.0E-03
Hexachlorocyclohexane, alpha (alpha-BHC)	2.5E+00	7.7E+00	2.3E+01	4.5E+00	6.5E-02	3.1E+01	6.8E+03	No RBEL	4.1E+04	8.2E+03	1.2E+02	No RBEL	3.2E-04	c	6.5E-02	3.2E-04
Hexachlorocyclohexane, beta (beta-BHC)	8.9E+00	2.7E+01	7.9E+01	1.6E+01	2.4E-01	1.0E+02	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	1.1E-03	c	2.4E-01	1.1E-03
Hexachlorocyclohexane, delta (delta-BHC)	1.1E+01	7.5E+01	7.9E+01	1.6E+01	1.5E+00	1.3E+02	2.6E+02	No RBEL	1.5E+03	3.1E+02	2.8E+01	No RBEL	1.1E-03	c	1.5E+00	1.1E-03
Hexachlorocyclohexane, gamma (lindane; gamma-BHC)	1.8E+01	No RBEL	1.1E+02	2.2E+01	No RBEL	No RBEL	1.2E+02	2.3E+02	1.5E+03	3.1E+02	3.4E-02	9.9E+02	2.0E-04	m	3.4E-02	2.0E-04
VOCs (8260B)																
Trichloroethylene	8.6E+02	1.4E+03	NA	2.2E+03	No RBEL	1.4E+04	8.7E+02	1.0E+03	NA	6.1E+03	8.0E-02	1.0E+04	5.0E-03	m	8.0E-02	5.0E-03
METALS & CORROSIVITY (RCRA 8)																
Arsenic	2.0E+02	8.8E+03	1.3E+03	2.4E+02	No RBEL	NA	3.3E+02	No RBEL	2.0E+03	3.9E+02	2.6E+00	NA	1.0E-02	m	<BKG	1.0E-02
Barium	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	NA	1.0E+05	6.8E+05	2.9E+05	2.0E+05	2.3E+02	NA	2.0E+00	m	2.3E+02	2.0E+00
Cadmium	2.1E+04	2.1E+04	No RBEL	No RBEL	No RBEL	NA	8.5E+02	No RBEL	5.1E+03	1.0E+03	7.8E-01	NA	5.0E-03	m	7.8E-01	5.0E-03
Lead (inorganic)	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	NA	1.6E+03	No RBEL	No RBEL	1.6E+03	2.8E+02	NA	1.5E-02	a	2.8E+02	1.5E-02
Mercury (pH = 4.9)	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	NA	1.4E+01	1.5E+01	4.3E+02	3.1E+02	4.7E-03	NA	2.0E-03	m	<BKG	2.0E-03
Selenium	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	NA	4.8E+03	2.7E+05	1.0E+05	5.1E+03	1.2E+00	NA	5.0E-02	m	1.2E+00	5.0E-02
Silver	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	NA	1.9E+03	1.4E+04	4.1E+03	5.1E+03	1.1E+00	NA	3.7E-01	n	1.1E+00	3.7E-01

Notes:

All values for a 30 ac source size where source size applicable

NA- Not applicable

NV - No value

Residential RBELs - TCEQ (2010) Table 9

Commercial RBELS - TCEQ (2010) Table 10

Shaded cells - GW value based on MCL or Action Level and not a RBEL

GW PCL Basis - applies to $^{GW}Soil_{Ing}$ and $^{GW}GW_{Ing}$: a=action level, m=MCL; c=carcinogen; n=noncarcinogen

>S - Tier 1 PCL exceeds solubility; if site data exceed this, then it must be addressed as NAPL. Calculating a higher Tier 2 PCL would not be beneficial as analyte would still be addressed as NAPL. TRRP 350.78(b)

Table 12
Tier 2 PCLs for Residential Use
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Analyte	Residential																Critical Soil PCL (mg/kg)	Critical GW PCL (mg/kg)
	Carcinogenic							Noncarcinogenic							$^{GW}GW_{ing}$ (mg/L)	GW PCL Basis		
	$^{Tot}SOIL_{Comb}$ (mg/kg)	$^{Air}SOIL_{Inh\text{-}V}$ (mg/kg)	$^{Soil}Soil_{Derm}$ (mg/kg)	$^{Soil}Soil_{Ing}$ (mg/kg)	$^{Veg}SOIL_{Ing}$ (mg/kg)	$^{GW}Soil_{Ing}$ (mg/kg)	$^{Air}GW_{Inh\text{-}V}$ (mg/L)	$^{Tot}SOIL_{Comb}$ (mg/kg)	$^{Air}SOIL_{Inh\text{-}V}$ (mg/kg)	$^{Soil}Soil_{Derm}$ (mg/kg)	$^{Soil}Soil_{Ing}$ (mg/kg)	$^{Veg}SOIL_{Ing}$ (mg/kg)	$^{GW}Soil_{Ing}$ (mg/kg)	$^{Air}GW_{Inh\text{-}V}$ (mg/L)				
PESTICIDES (8081A)																		
DDE	1.0E+01	No RBEL	2.0E+02	1.8E+01	2.7E+01	4.5E+01	No RBEL	NV	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	2.7E-03	c	1.0E+01	2.7E-03
DDT	5.4E+00	1.0E+03	2.0E+02	1.8E+01	8.1E+00	5.6E+01	5.1E+02	1.9E+01	No RBEL	5.9E+02	4.1E+01	3.7E+01	2.5E+02	No RBEL	2.7E-03	c	5.4E+00	2.68E-03
Dieldrin	1.4E-01	9.0E+00	1.3E+00	3.8E-01	2.9E-01	1.8E-01	1.1E+01	2.2E+00	No RBEL	1.8E+01	4.1E+00	6.3E+00	4.0E+00	No RBEL	5.7E-05	c	1.4E-01	5.70E-05
Toxaphene	1.2E+00	2.8E+02	1.9E+01	5.5E+00	1.8E+00	No RBEL	1.7E+02	NV	No RBEL	No RBEL	No RBEL	No RBEL	4.4E+01	No RBEL	3.0E-03	m	1.2E+00	3.00E-03
Hexachlorocyclohexane, alpha (alpha-BHC)	2.5E-01	4.6E+00	8.2E+00	9.6E-01	3.7E-01	2.9E-02	1.8E+01	2.7E+02	No RBEL	7.1E+03	6.6E+02	5.0E+02	2.9E-02	No RBEL	1.4E-04	c	2.9E-02	1.45E-04
Hexachlorocyclohexane, beta (beta-BHC)	8.9E-01	1.6E+01	2.9E+01	3.4E+00	1.4E+00	1.1E-01	6.2E+01	NV	No RBEL	No RBEL	No RBEL	No RBEL	1.1E-01	No RBEL	5.1E-04	c	1.1E-01	5.07E-04
Hexachlorocyclohexane, delta (delta-BHC)	2.8E+00	4.5E+01	2.9E+01	3.4E+00	No RBEL	6.5E-01	7.7E+01	2.2E+01	No RBEL	2.7E+02	2.5E+01	No RBEL	6.5E-01	No RBEL	5.1E-04	c	6.5E-01	5.07E-04
Hexachlorocyclohexane, gamma (lindane; gamma-BHC)	1.1E+00	No RBEL	4.0E+01	4.7E+00	1.5E+00	No RBEL	No RBEL	8.7E+00	1.6E+02	2.7E+02	2.5E+01	1.6E+01	3.4E-02	7.1E+02	2.0E-04	m	3.4E-02	2.00E-04
VOCs (8260B)																		
Trichloroethylene	3.0E+02	8.4E+02	NA	4.7E+02	No RBEL	No RBEL	8.5E+03	2.9E+02	7.2E+02	NA	4.9E+02	No RBEL	8.0E-02	7.3E+03	5.0E-03	m	8.0E-02	5.00E-03
METALS & CORROSIVITY (RCRA 8)																		
Arsenic	3.4E+01	5.2E+03	4.6E+02	5.2E+01	1.3E+02	No RBEL	NA	2.4E+01	No RBEL	3.6E+02	3.1E+01	1.5E+02	2.6E+00	NA	1.0E-02	m	<BKG	1.00E-02
Barium	NV	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	NA	8.0E+03	4.8E+05	5.0E+04	1.6E+04	2.4E+04	2.3E+02	NA	2.0E+00	m	2.3E+02	2.00E+00
Cadmium	1.3E+04	1.3E+04	No RBEL	No RBEL	No RBEL	No RBEL	NA	5.2E+01	No RBEL	2.2E+03	2.6E+02	6.8E+01	7.8E-01	NA	5.0E-03	m	7.8E-01	5.00E-03
Lead (inorganic)	NV	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	NA	5.0E+02	No RBEL	No RBEL	5.0E+02	No RBEL	2.8E+02	NA	1.5E-02	a	2.8E+02	1.50E-02
Mercury (pH = 4.9)	NV	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	NV	6.7E+00	1.1E+01	7.5E+01	2.5E+01	3.6E+02	4.7E-03	3.6E+02	2.0E-03	m	<BKG	2.00E-03
Selenium	NV	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	NA	3.1E+02	1.9E+05	1.8E+04	4.1E+02	1.3E+03	1.2E+00	NA	5.0E-02	m	1.2E+00	5.00E-02
Silver	NV	No RBEL	No RBEL	No RBEL	No RBEL	No RBEL	NA	9.6E+01	9.7E+03	7.1E+02	4.1E+02	1.5E+02	3.6E-01	NA	1.2E-01	n	3.6E-01	1.22E-01

Notes:
All values for a 30 ac source size where source size applicable
NA- Not applicable
NV - No value
Residential RBELs - TCEQ (2010) Table 9
Shaded cells - GW value based on MCL or Action Level and not a RBEL
GW PCL Basis - applies to GWSoilIng and GWGWing: a=action level, m=MCL; c=carcinogen; n=noncarcinogen
<BGK - below Texas-specific soil background (TSBC)

Table 13
Tier 2 Screening Evaluation with Maxima and UCL 95 Values
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

		Soil						
Analyte	**CAS**	**Maximum Detected Value**	**Residential Risk Ratio**	**Commercial/ Industrial Risk Ratio**	**UCL95**	**UCL Description**	**Residential Risk Ratio**	**Commercial/ Industrial Risk Ratio**
Arsenic	7440-38-2	968	NA	NA	197.94	95% KM (Chebyshev) UCL	NA	NA
Barium	7440-39-3	400	***1.7***	***1.7***	138.7	95% KM (BCA) UCL	0.6	0.6
Cadmium	7440-43-9	3.2	***4.1***	***4.1***	0.77	95% KM (Chebyshev) UCL	1.0	1.0
DDE	72-55-9	24	***2.4***	0.3	4.56	95% KM (Chebyshev) UCL	0.4	0.1
DDT	50-29-3	47.6	***8.8***	0.7	10.44	99% KM (Chebyshev) UCL	***2***	0
Dieldrin	60-57-1	9.56	***66***	***23***	2.56	97.5% KM (Chebyshev) UCL	***18***	***6***
Hexachlorocyclohexane, alpha (alpha-BHC)	319-84-6	2.38	***82***	***36***	0.13	95% KM (t) UCL	***5***	***2.0***
Hexachlorocyclohexane, beta (beta-BHC)	319-85-7	1.87	***17***	***7.8***	0.41	99% KM (Chebyshev) UCL	***4***	***1.7***
Hexachlorocyclohexane, delta (delta-BHC)	319-86-8	2.5	***3.8***	***1.7***	0.55	99% KM (Chebyshev) UCL	1	0.4
Hexachlorocyclohexane, gamma (lindane; gamma-BHC)	58-89-9	1.93	***57***	***57***	0.11	95% KM (t) UCL	***3***	***3***
Lead (inorganic)	7439-92-1	10200	***36***	***36***	895.5	95% KM (Chebyshev) UCL	***3***	***3***
Mercury (pH = 4.9)	7439-97-6	1.345	NA	NA	0.15	95% KM (Chebyshev) UCL	NA	NA
Selenium	7782-49-2	1.56	***1.3***	***1.3***	1.45	95% KM (Percentile Bootstrap) UCL	***1.2***	***1.2***
Silver	7440-22-4	0.37	***1.0***	0.3	0.30	95% KM (Percentile Bootstrap) UCL	0.9	0.3
Toxaphene	8001-35-2	563	***455***	***34***	108.64	97.5% KM (Chebyshev) UCL	***88***	***6***
Trichloroethylene	79-01-6	NA	NA	NA	NA	Number of detects<4	NA	NA

		Groundwater						
Analyte	**CAS**	**Maximum Detected Value**	**Residential Risk Ratio**	**Commercial/ Industrial Risk Ratio**	**UCL95**	**UCL Description**	**Residential Risk Ratio**	**Commercial/ Industrial Risk Ratio**
Dieldrin	60-57-1	0.0029	***50.8***	***22.7***	NA	Number of detects<4	NA	NA
Hexachlorocyclohexane, beta (beta-BHC)	319-85-7	0.0014	***3***	1	NA	Number of detects<4	NA	NA
Toxaphene	8001-35-2	0.963	***321***	***321***	0.21	95% KM (Percentile Bootstrap) UCL	***70***	***70***
Trichloroethylene	79-01-6	0.0094	***2***	***2***	NA	Number of detects<4	NA	NA

Notes:
UCLs not calculated unless there were at least 4 detected values. When more than one UCL was recommended by ProUCL, the highest value was chose. Note that ProUCL considers any number of detects less than 10
The reporting limits were used to represent the nondetected data for UCL estimation.
All data were combined by depth and date for each media for UCLs
NA - Not applicable

Table 14
Soil Detections and Exceedances
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Sample ID	Sample Date	Sample Depth (ft)	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential Soil PCLs (mg/kg)	TRRP Tier 1 Critical Commercial Soil PCLs (mg/kg)	Tier 2 Critical Commercial Soil PCL (mg/kg)
MW-1	7/21/2006	11.5-12.5	>C12-C28	<2.93	mg/kg		99	296	NV
MW-1	7/21/2006	11.5-12.5	>C28-C35	<5.03	mg/kg		99	296	NV
MW-1	7/21/2006	0.5-1.0	4,4-DDE	0.0326	mg/kg		5.89	13.2	73
MW-1	7/21/2006	0.5-1.0	Arsenic	**18.4***	mg/kg		5.9	5.9	5.9
MW-1	7/21/2006	0.5-1.0	Barium	160	mg/kg		300	300	230
MW-1	7/21/2006	11.5-12.5	C6-C12	<1.93	mg/kg		32.5	97.1	NV
MW-1	7/21/2006	11.5-12.5	C6-C35	<9.88	mg/kg		NV	NV	NV
MW-1	7/21/2006	0.5-1.0	Cadmium	<0.0336	mg/kg		0.755	0.755	0.78
MW-1	7/21/2006	0.5-1.0	Chromium	29.6	mg/kg		1200	1200	NV
MW-1	7/21/2006	0.5-1.0	Dieldrin	0.00705	mg/kg		0.0244	0.0547	0.41
MW-1	7/21/2006	0.5-1.0	Lead	**15.1**	mg/kg		15	15	280
MW-1	7/21/2006	0.5-1.0	Mercury	0.01086	mg/kg		0.04	0.04	0.04
MW-1	7/21/2006	0.5-1.0	Selenium	<0.403	mg/kg		1.15	1.15	1.2
MW-1	7/21/2006	0.5-1.0	Silver	<0.101	mg/kg		0.239	0.715	1.1
MW-1	7/21/2006	0.5-1.0	Toxaphene	0.515	mg/kg		1.24	5.75	17
MW-2	7/21/2006	11.0-12.0	>C12-C28	<2.99	mg/kg		99	296	NV
MW-2	7/21/2006	11.0-12.0	>C28-C35	<5.13	mg/kg		99	296	NV
MW-2	7/21/2006	0.5-1.0	4,4-DDE	0.385	mg/kg		5.89	13.2	73
MW-2	7/21/2006	0.5-1.0	4,4-DDT	0.945	mg/kg		5.39	16.5	73
MW-2	7/21/2006	0.5-1.0	a-BHC	0.00265	mg/kg		0.00369	0.00886	0.065
MW-2	7/21/2006	0.5-1.0	Arsenic	**418**	mg/kg		5.9	5.9	5.9
MW-2	7/21/2006	0.5-1.0	Barium	194	mg/kg		300	300	230
MW-2	7/21/2006	0.5-1.0	b-BHC	**0.0364**	mg/kg		0.0145	0.0324	0.24
MW-2	7/21/2006	11.0-12.0	C6-C12	<1.96	mg/kg		32.5	97.1	NV
MW-2	7/21/2006	11.0-12.0	C6-C35	<10.1	mg/kg		NV	NV	NV
MW-2	7/21/2006	0.5-1.0	Cadmium	<0.0389	mg/kg		0.755	0.755	0.78
MW-2	7/21/2006	0.5-1.0	Chromium	32.9	mg/kg		1200	1200	NV
MW-2	7/21/2006	0.5-1.0	Dieldrin	**0.0535**	mg/kg		0.0244	0.0547	0.41
MW-2	7/21/2006	0.5-1.0	Endrin	0.0636	mg/kg		0.375	0.375	NV
MW-2	7/21/2006	0.5-1.0	g-BHC	0.00245	mg/kg		0.00458	0.00458	0.034

Table 14
Soil Detections and Exceedances
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Sample ID	Sample Date	Sample Depth (ft)	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential Soil PCLs (mg/kg)	TRRP Tier 1 Critical Commercial Soil PCLs (mg/kg)	Tier 2 Critical Commercial Soil PCL (mg/kg)
MW-2	7/21/2006	0.5-1.0	Lead	**20.5**	mg/kg		15	15	280
MW-2	7/21/2006	0.5-1.0	Mercury	0.01266	mg/kg		0.04	0.04	0.04
MW-2	7/21/2006	0.5-1.0	Selenium	<0.466	mg/kg		1.15	1.15	1.2
MW-2	7/21/2006	0.5-1.0	Silver	<0.117	mg/kg		0.239	0.715	1.1
MW-2	7/21/2006	0.5-1.0	Toxaphene	**4.36**	mg/kg		1.24	5.75	17
MW-3	7/21/2006	12.0-13.0	>C12-C28	<2.99	mg/kg		99	296	NV
MW-3	7/21/2006	12.0-13.0	>C28-C35	<5.14	mg/kg		99	296	NV
MW-3	7/21/2006	0.5-1.0	4,4-DDE	0.633	mg/kg		5.89	13.2	73
MW-3	7/21/2006	0.5-1.0	4,4-DDT	1.15	mg/kg		5.39	16.5	73
MW-3	7/21/2006	0.5-1.0	a-BHC	**0.227**	mg/kg		0.00369	0.00886	0.065
MW-3	7/21/2006	0.5-1.0	Arsenic	**144**	mg/kg		5.9	5.9	5.9
MW-3	7/21/2006	0.5-1.0	Barium	210	mg/kg		300	300	230
MW-3	7/21/2006	0.5-1.0	b-BHC	**0.177**	mg/kg		0.0145	0.0324	0.24
MW-3	7/21/2006	12.0-13.0	C6-C12	<1.97	mg/kg		32.5	97.1	NV
MW-3	7/21/2006	12.0-13.0	C6-C35	<10.1	mg/kg		NV	NV	NV
MW-3	7/21/2006	0.5-1.0	Cadmium	0.202	mg/kg	J	0.755	0.755	0.78
MW-3	7/21/2006	0.5-1.0	Chromium	15.6	mg/kg		1200	1200	NV
MW-3	7/21/2006	0.5-1.0	d-BHC	**0.25**	mg/kg		0.0868	0.194	1.5
MW-3	7/21/2006	0.5-1.0	Dieldrin	**0.0623**	mg/kg		0.0244	0.0547	0.41
MW-3	7/21/2006	0.5-1.0	Dursban (chlropyrifos)	0.000497	mg/kg	J	7.42	22.2	NV
MW-3	7/21/2006	0.5-1.0	Endrin	0.0224	mg/kg		0.375	0.375	NV
MW-3	7/21/2006	0.5-1.0	Ethyl Parathion	0.0161	mg/kg		NV	NV	NV
MW-3	7/21/2006	0.5-1.0	g-BHC	**0.181**	mg/kg		0.00458	0.00458	0.034
MW-3	7/21/2006	0.5-1.0	Lead	**23.4**	mg/kg		15	15	280
MW-3	7/21/2006	0.5-1.0	Mercury	0.02991	mg/kg		0.04	0.04	0.04
MW-3	7/21/2006	0.5-1.0	Selenium	0.521	mg/kg	J	1.15	1.15	1.2
MW-3	7/21/2006	0.5-1.0	Silver	<0.104	mg/kg		0.239	0.715	1.1
MW-3	7/21/2006	0.5-1.0	Toxaphene	**7.98**	mg/kg		1.24	5.75	17
MW-04	09/27/2010	0-1.0	4,4'-DDE	0.021	mg/kg		5.89	13.2	73
MW-04	09/27/2010	0-1.0	4,4'-DDT	0.046	mg/kg		5.39	16.5	73

Table 14
Soil Detections and Exceedances
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Sample ID	Sample Date	Sample Depth (ft)	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential Soil PCLs (mg/kg)	TRRP Tier 1 Critical Commercial Soil PCLs (mg/kg)	Tier 2 Critical Commercial Soil PCL (mg/kg)
MW-04	09/27/2010	0-1.0	Arsenic	4.2	mg/kg		5.9	5.9	5.9
MW-04	09/27/2010	0-1.0	Barium	18	mg/kg		300	300	230
MW-04	09/27/2010	0-1.0	Chromium	6.8	mg/kg		1200	1200	NV
MW-04	09/27/2010	0-1.0	Endosulfan I	0.00066	mg/kg	J	15.4	46	NV
MW-04	09/27/2010	0-1.0	Endosulfan II	0.0021	mg/kg	J	46.2	138	NV
MW-04	09/27/2010	0-1.0	Endrin ketone	0.0019	mg/kg	J	18.6	76.1	NV
MW-04	09/27/2010	0-1.0	Lead	4.2	mg/kg		15	15	280
MW-04	09/27/2010	0-1.0	Toxaphene	0.39	mg/kg		1.24	5.75	17
MW-04	09/27/2010	4.0-5.0	4,4'-DDD	0.077	mg/kg	J	6.48	14.5	NV
MW-04	09/27/2010	4.0-5.0	4,4'-DDE	0.32	mg/kg		5.89	13.2	73
MW-04	09/27/2010	4.0-5.0	4,4'-DDT	0.58	mg/kg		5.39	16.5	73
MW-04	09/27/2010	4.0-5.0	Arsenic	**13***	mg/kg		5.9	5.9	5.9
MW-04	09/27/2010	4.0-5.0	Barium	60	mg/kg		300	300	230
MW-04	09/27/2010	4.0-5.0	beta-BHC	0.0018	mg/kg	J	0.0145	0.0324	0.24
MW-04	09/27/2010	4.0-5.0	Cadmium	0.18	mg/kg	J	0.755	0.755	0.78
MW-04	09/27/2010	4.0-5.0	Chromium	9.8	mg/kg		1200	1200	NV
MW-04	09/27/2010	4.0-5.0	Dieldrin	**0.026**	mg/kg	J	0.0244	0.0547	0.41
MW-04	09/27/2010	4.0-5.0	Heptachlor	0.00027	mg/kg	J	0.0944	0.0944	NV
MW-04	09/27/2010	4.0-5.0	Heptachlor epoxide	0.013	mg/kg		0.0291	0.0291	NV
MW-04	09/27/2010	4.0-5.0	Lead	9.7	mg/kg		15	15	280
MW-04	09/27/2010	4.0-5.0	Mercury	0.015	mg/kg	J	0.04	0.04	0.04
MW-04	09/27/2010	4.0-5.0	Toxaphene	3.7	mg/kg	J	1.24	5.75	17
MW-05	09/28/2010	0-1.0	Arsenic	**13***	mg/kg		5.9	5.9	5.9
MW-05	09/28/2010	0-1.0	Barium	190	mg/kg		300	300	230
MW-05	09/28/2010	0-1.0	Cadmium	0.29	mg/kg	J	0.755	0.755	0.78
MW-05	09/28/2010	0-1.0	Chromium	29	mg/kg		1200	1200	NV
MW-05	09/28/2010	0-1.0	Lead	**19**	mg/kg		15	15	280
MW-05	09/28/2010	0-1.0	Mercury	0.015	mg/kg	J	0.04	0.04	0.04
MW-05	09/28/2010	4.0-5.0	Arsenic	**6.7***	mg/kg		5.9	5.9	5.9
MW-05	09/28/2010	4.0-5.0	Barium	65	mg/kg		300	300	230

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MW-05	09/28/2010	4.0-5.0	Cadmium	0.19	mg/kg	J	0.755	0.755	0.78
MW-05	09/28/2010	4.0-5.0	Chromium	13	mg/kg		1200	1200	NV
MW-05	09/28/2010	4.0-5.0	Lead	5.4	mg/kg		15	15	280
MW-05	09/28/2010	4.0-5.0	Mercury	0.0074	mg/kg	J	0.04	0.04	0.04
MW-06	09/28/2010	0-1.0	4,4'-DDE	0.00087	mg/kg	J	5.89	13.2	73
MW-06	09/28/2010	0-1.0	4,4'-DDT	0.00091	mg/kg	J	5.39	16.5	73
MW-06	09/28/2010	0-1.0	Arsenic	**8.9***	mg/kg		5.9	5.9	5.9
MW-06	09/28/2010	0-1.0	Barium	120	mg/kg		300	300	230
MW-06	09/28/2010	0-1.0	Cadmium	0.22	mg/kg	J	0.755	0.755	0.78
MW-06	09/28/2010	0-1.0	Chromium	21	mg/kg		1200	1200	NV
MW-06	09/28/2010	0-1.0	Lead	10	mg/kg		15	15	280
MW-06	09/28/2010	0-1.0	Mercury	0.017	mg/kg	J	0.04	0.04	0.04
MW-06	09/28/2010	4.0-5.0	4,4'-DDE	0.00043	mg/kg	J	5.89	13.2	73
MW-06	09/28/2010	4.0-5.0	Arsenic	**20***	mg/kg		5.9	5.9	5.9
MW-06	09/28/2010	4.0-5.0	Barium	150	mg/kg		300	300	230
MW-06	09/28/2010	4.0-5.0	Cadmium	0.37	mg/kg	J	0.755	0.755	0.78
MW-06	09/28/2010	4.0-5.0	Chromium	25	mg/kg		1200	1200	NV
MW-06	09/28/2010	4.0-5.0	Lead	**20**	mg/kg		15	15	280
MW-06	09/28/2010	4.0-5.0	Mercury	0.011	mg/kg	J	0.04	0.04	0.04
MW-07	09/28/2010	0-1.0	Arsenic	**6.7***	mg/kg	J	5.9	5.9	5.9
MW-07	09/28/2010	0-1.0	Barium	140	mg/kg	J	300	300	230
MW-07	09/28/2010	0-1.0	Cadmium	0.20	mg/kg	J	0.755	0.755	0.78
MW-07	09/28/2010	0-1.0	Chromium	20	mg/kg	J	1200	1200	NV
MW-07	09/28/2010	0-1.0	Lead	9.9	mg/kg	J	15	15	280
MW-07	09/28/2010	0-1.0	Mercury	0.012	mg/kg	J	0.04	0.04	0.04
MW-07	09/28/2010	4.0-5.0	Arsenic	**15***	mg/kg		5.9	5.9	5.9
MW-07	09/28/2010	4.0-5.0	Barium	120	mg/kg		300	300	230
MW-07	09/28/2010	4.0-5.0	Cadmium	0.22	mg/kg	J	0.755	0.755	0.78
MW-07	09/28/2010	4.0-5.0	Chromium	16	mg/kg		1200	1200	NV
MW-07	09/28/2010	4.0-5.0	Lead	7.7	mg/kg		15	15	280

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Soil Detections and Exceedances
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Sample ID	Sample Date	Sample Depth (ft)	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential Soil PCLs (mg/kg)	TRRP Tier 1 Critical Commercial Soil PCLs (mg/kg)	Tier 2 Critical Commercial Soil PCL (mg/kg)
MW-07	09/28/2010	4.0-5.0	Mercury	0.011	mg/kg	J	0.04	0.04	0.04
SB-01	09/29/2010	0-0.5	4,4'-DDE	0.00092	mg/kg	J	5.89	13.2	73
SB-01	09/29/2010	0-0.5	Arsenic	**11***	mg/kg		5.9	5.9	5.9
SB-01	09/29/2010	0-0.5	Barium	150	mg/kg		300	300	230
SB-01	09/29/2010	0-0.5	Cadmium	0.24	mg/kg	J	0.755	0.755	0.78
SB-01	09/29/2010	0-0.5	Chromium	28	mg/kg		1200	1200	NV
SB-01	09/29/2010	0-0.5	Endosulfan I	0.00032	mg/kg	J	15.4	46	NV
SB-01	09/29/2010	0-0.5	Lead	**26**	mg/kg		15	15	280
SB-01	09/29/2010	0-0.5	Mercury	0.0075	mg/kg	J	0.04	0.04	0.04
SB-01	09/29/2010	4.0-5.0	Arsenic	**22***	mg/kg		5.9	5.9	5.9
SB-01	09/29/2010	4.0-5.0	Barium	71	mg/kg		300	300	230
SB-01	09/29/2010	4.0-5.0	Cadmium	0.33	mg/kg	J	0.755	0.755	0.78
SB-01	09/29/2010	4.0-5.0	Chromium	14	mg/kg		1200	1200	NV
SB-01	09/29/2010	4.0-5.0	Endosulfan I	0.00053	mg/kg	J	15.4	46	NV
SB-01	09/29/2010	4.0-5.0	Lead	10	mg/kg		15	15	280
SB-01	09/29/2010	4.0-5.0	Mercury	0.0086	mg/kg	J	0.04	0.04	0.04
SB-02	09/29/2010	0-0.5	4,4'-DDE	0.0018	mg/kg	J	5.89	13.2	73
SB-02	09/29/2010	0-0.5	Arsenic	**11***	mg/kg		5.9	5.9	5.9
SB-02	09/29/2010	0-0.5	Barium	170	mg/kg		300	300	230
SB-02	09/29/2010	0-0.5	Cadmium	0.27	mg/kg	J	0.755	0.755	0.78
SB-02	09/29/2010	0-0.5	Chromium	32	mg/kg		1200	1200	NV
SB-02	09/29/2010	0-0.5	Endosulfan II	0.00039	mg/kg	J	46.2	138	NV
SB-02	09/29/2010	0-0.5	Lead	**16**	mg/kg		15	15	280
SB-02	09/29/2010	0-0.5	Mercury	0.0083	mg/kg	J	0.04	0.04	0.04
SB-02	09/29/2010	0-0.5	Toxaphene	0.033	mg/kg	J	1.24	5.75	17
SB-02	09/29/2010	4.0-5.0	4,4'-DDE	0.00039	mg/kg	J	5.89	13.2	73
SB-02	09/29/2010	4.0-5.0	Arsenic	**21***	mg/kg		5.9	5.9	5.9
SB-02	09/29/2010	4.0-5.0	Barium	59	mg/kg		300	300	230
SB-02	09/29/2010	4.0-5.0	Cadmium	0.25	mg/kg	J	0.755	0.755	0.78
SB-02	09/29/2010	4.0-5.0	Chromium	19	mg/kg		1200	1200	NV

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SB-02	09/29/2010	4.0-5.0	Lead	12	mg/kg		15	15	280
SB-02	09/29/2010	4.0-5.0	Mercury	0.015	mg/kg	J	0.04	0.04	0.04
SB-03	09/29/2010	0-0.5	4,4'-DDE	0.13	mg/kg		5.89	13.2	73
SB-03	09/29/2010	0-0.5	4,4'-DDT	0.19	mg/kg	J	5.39	16.5	73
SB-03	09/29/2010	0-0.5	Arsenic	**14***	mg/kg		5.9	5.9	5.9
SB-03	09/29/2010	0-0.5	Barium	140	mg/kg		300	300	230
SB-03	09/29/2010	0-0.5	Cadmium	0.25	mg/kg	J	0.755	0.755	0.78
SB-03	09/29/2010	0-0.5	Chromium	28	mg/kg		1200	1200	NV
SB-03	09/29/2010	0-0.5	Dieldrin	0.0077	mg/kg		0.0244	0.0547	0.41
SB-03	09/29/2010	0-0.5	Lead	13	mg/kg		15	15	280
SB-03	09/29/2010	0-0.5	Mercury	0.0080	mg/kg	J	0.04	0.04	0.04
SB-03	09/29/2010	0-0.5	Toxaphene	**1.4**	mg/kg		1.24	5.75	17
SB-03	09/29/2010	4.0-5.0	4,4'-DDE	0.083	mg/kg		5.89	13.2	73
SB-03	09/29/2010	4.0-5.0	4,4'-DDT	0.056	mg/kg	J	5.39	16.5	73
SB-03	09/29/2010	4.0-5.0	Arsenic	**16***	mg/kg		5.9	5.9	5.9
SB-03	09/29/2010	4.0-5.0	Barium	94	mg/kg		300	300	230
SB-03	09/29/2010	4.0-5.0	Cadmium	0.38	mg/kg	J	0.755	0.755	0.78
SB-03	09/29/2010	4.0-5.0	Chromium	13	mg/kg		1200	1200	NV
SB-03	09/29/2010	4.0-5.0	Dieldrin	0.0043	mg/kg	J	0.0244	0.0547	0.41
SB-03	09/29/2010	4.0-5.0	Endrin ketone	0.0064	mg/kg		18.6	76.1	NV
SB-03	09/29/2010	4.0-5.0	Lead	7.5	mg/kg		15	15	280
SB-03	09/29/2010	4.0-5.0	Mercury	0.0096	mg/kg	J	0.04	0.04	0.04
SB-03	09/29/2010	4.0-5.0	Toxaphene	1.2	mg/kg		1.24	5.75	17
SB-04	09/29/2010	0-0.5	4,4'-DDE	3.2	mg/kg		5.89	13.2	73
SB-04	09/29/2010	0-0.5	alpha-BHC	0.0016	mg/kg	J	0.00369	0.00886	0.065
SB-04	09/29/2010	0-0.5	Arsenic	**160**	mg/kg		5.9	5.9	5.9
SB-04	09/29/2010	0-0.5	Barium	45	mg/kg		300	300	230
SB-04	09/29/2010	0-0.5	beta-BHC	0.0056	mg/kg	J	0.0145	0.0324	0.24
SB-04	09/29/2010	0-0.5	Cadmium	**1.2**	mg/kg		0.755	0.755	0.78
SB-04	09/29/2010	0-0.5	Chromium	13	mg/kg		1200	1200	NV

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SB-04	09/29/2010	0-0.5	delta-BHC	0.0026	mg/kg	J	0.0868	0.194	1.5
SB-04	09/29/2010	0-0.5	Dieldrin	**0.66**	mg/kg	J	0.0244	0.0547	0.41
SB-04	09/29/2010	0-0.5	gamma-BHC (Lindane)	0.0013	mg/kg	J	0.00458	0.00458	0.034
SB-04	09/29/2010	0-0.5	Heptachlor	0.0019	mg/kg	J	0.0944	0.0944	NV
SB-04	09/29/2010	0-0.5	Lead	10	mg/kg		15	15	280
SB-04	09/29/2010	0-0.5	Mercury	**0.051**	mg/kg		0.04	0.04	0.047
SB-04	09/29/2010	0-0.5	Toxaphene	**63**	mg/kg	J	1.24	5.75	17
SB-04	09/29/2010	4.0-5.0	4,4'-DDD	0.0050	mg/kg	J	6.48	14.5	NV
SB-04	09/29/2010	4.0-5.0	4,4'-DDE	0.020	mg/kg		5.89	13.2	73
SB-04	09/29/2010	4.0-5.0	4,4'-DDT	0.33	mg/kg		5.39	16.5	73
SB-04	09/29/2010	4.0-5.0	Arsenic	**9.0***	mg/kg		5.9	5.9	5.9
SB-04	09/29/2010	4.0-5.0	Barium	120	mg/kg		300	300	230
SB-04	09/29/2010	4.0-5.0	Cadmium	0.25	mg/kg	J	0.755	0.755	0.73
SB-04	09/29/2010	4.0-5.0	Chromium	22	mg/kg	J	1200	1200	NV
SB-04	09/29/2010	4.0-5.0	Dieldrin	0.0029	mg/kg	J	0.0244	0.0547	0.41
SB-04	09/29/2010	4.0-5.0	Endosulfan II	0.011	mg/kg	J	46.2	138	NV
SB-04	09/29/2010	4.0-5.0	Endrin ketone	0.0026	mg/kg	J	18.6	76.1	NV
SB-04	09/29/2010	4.0-5.0	Lead	11	mg/kg	J	15	15	280
SB-04	09/29/2010	4.0-5.0	Toxaphene	0.68	mg/kg	J	1.24	5.75	17
SB-05	09/29/2010	0-0.5	4,4'-DDE	0.25	mg/kg	J	5.89	13.2	73
SB-05	09/29/2010	0-0.5	4,4'-DDT	2.2	mg/kg		5.39	16.5	73
SB-05	09/29/2010	0-0.5	alpha-BHC	0.00051	mg/kg	J	0.00369	0.00886	0.065
SB-05	09/29/2010	0-0.5	Arsenic	**88**	mg/kg		5.9	5.9	5.9
SB-05	09/29/2010	0-0.5	Barium	33	mg/kg		300	300	230
SB-05	09/29/2010	0-0.5	beta-BHC	0.011	mg/kg		0.0145	0.0324	0.24
SB-05	09/29/2010	0-0.5	Cadmium	**0.99**	mg/kg		0.755	0.755	0.78
SB-05	09/29/2010	0-0.5	Chromium	6.1	mg/kg		1200	1200	NV
SB-05	09/29/2010	0-0.5	delta-BHC	0.0021	mg/kg	J	0.0868	0.194	1.5
SB-05	09/29/2010	0-0.5	Dieldrin	**0.19**	mg/kg	J	0.0244	0.0547	0.41
SB-05	09/29/2010	0-0.5	Endosulfan II	0.36	mg/kg		46.2	138	NV

Table 14
Soil Detections and Exceedances
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Sample ID	Sample Date	Sample Depth (ft)	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential Soil PCLs (mg/kg)	TRRP Tier 1 Critical Commercial Soil PCLs (mg/kg)	Tier 2 Critical Commercial Soil PCL (mg/kg)
SB-05	09/29/2010	0-0.5	Endosulfan sulfate	0.20	mg/kg	J	385	4090	NV
SB-05	09/29/2010	0-0.5	Endrin	0.28	mg/kg	J	0.375	0.375	NV
SB-05	09/29/2010	0-0.5	Endrin ketone	0.094	mg/kg	J	18.6	76.1	NV
SB-05	09/29/2010	0-0.5	Heptachlor	0.0011	mg/kg	J	0.0944	0.0944	NV
SB-05	09/29/2010	0-0.5	Lead	14	mg/kg		15	15	280
SB-05	09/29/2010	0-0.5	Mercury	**0.14**	mg/kg		0.04	0.04	0.04
SB-05	09/29/2010	0-0.5	Selenium	**1.4**	mg/kg	J	1.15	1.15	1.2
SB-05	09/29/2010	0-0.5	Toxaphene	**15**	mg/kg	J	1.24	5.75	17
SB-05	09/29/2010	4.0-5.0	4,4'-DDE	5.4	mg/kg	J	5.89	13.2	73
SB-05	09/29/2010	4.0-5.0	4,4'-DDT	**23**	mg/kg		5.39	16.5	73
SB-05	09/29/2010	4.0-5.0	Arsenic	**130**	mg/kg		5.9	5.9	5.9
SB-05	09/29/2010	4.0-5.0	Barium	39	mg/kg		300	300	230
SB-05	09/29/2010	4.0-5.0	beta-BHC	**0.016**	mg/kg		0.0145	0.0324	0.24
SB-05	09/29/2010	4.0-5.0	Cadmium	**2.9**	mg/kg		0.755	0.755	0.78
SB-05	09/29/2010	4.0-5.0	Chromium	11	mg/kg		1200	1200	NV
SB-05	09/29/2010	4.0-5.0	delta-BHC	0.0069	mg/kg	J	0.0868	0.194	1.5
SB-05	09/29/2010	4.0-5.0	Dieldrin	**2.0**	mg/kg	J	0.0244	0.0547	0.41
SB-05	09/29/2010	4.0-5.0	Endosulfan II	1.6	mg/kg	J	46.2	138	NV
SB-05	09/29/2010	4.0-5.0	Endosulfan sulfate	1.7	mg/kg	J	385	4090	NV
SB-05	09/29/2010	4.0-5.0	Endrin ketone	0.99	mg/kg	J	18.6	76.1	NV
SB-05	09/29/2010	4.0-5.0	gamma-BHC (Lindane)	0.00077	mg/kg	J	0.00458	0.00458	0.034
SB-05	09/29/2010	4.0-5.0	Heptachlor	0.022	mg/kg		0.0944	0.0944	NV
SB-05	09/29/2010	4.0-5.0	Lead	**31**	mg/kg		15	15	280
SB-05	09/29/2010	4.0-5.0	Mercury	**0.068**	mg/kg		0.04	0.04	0.04
SB-05	09/29/2010	4.0-5.0	Toxaphene	**250**	mg/kg		1.24	5.75	17
SB-06	09/29/2010	0-0.5	4,4'-DDE	0.0076	mg/kg		5.89	13.2	73
SB-06	09/29/2010	0-0.5	4,4'-DDT	0.0073	mg/kg	J	5.39	16.5	73
SB-06	09/29/2010	0-0.5	Arsenic	**13***	mg/kg		5.9	5.9	5.9
SB-06	09/29/2010	0-0.5	Barium	140	mg/kg		300	300	230
SB-06	09/29/2010	0-0.5	Cadmium	0.25	mg/kg	J	0.755	0.755	0.78

Table 14
Soil Detections and Exceedances
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Sample ID	Sample Date	Sample Depth (ft)	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential Soil PCLs (mg/kg)	TRRP Tier 1 Critical Commercial Soil PCLs (mg/kg)	Tier 2 Critical Commercial Soil PCL (mg/kg)
SB-06	09/29/2010	0-0.5	Chromium	28	mg/kg		1200	1200	NV
SB-06	09/29/2010	0-0.5	Dieldrin	0.0025	mg/kg	J	0.0244	0.0547	0.41
SB-06	09/29/2010	0-0.5	Endosulfan II	0.0047	mg/kg		46.2	138	NV
SB-06	09/29/2010	0-0.5	Endrin ketone	0.0019	mg/kg	J	18.6	76.1	NV
SB-06	09/29/2010	0-0.5	Lead	13	mg/kg		15	15	280
SB-06	09/29/2010	0-0.5	Mercury	0.0095	mg/kg	J	0.04	0.04	0.04
SB-06	09/29/2010	0-0.5	Toxaphene	0.29	mg/kg		1.24	5.75	17
SB-06	09/29/2010	4.0-5.0	4,4'-DDE	0.0011	mg/kg	J	5.89	13.2	73
SB-06	09/29/2010	4.0-5.0	4,4'-DDT	0.0040	mg/kg		5.39	16.5	73
SB-06	09/29/2010	4.0-5.0	Arsenic	**9.0***	mg/kg		5.9	5.9	5.9
SB-06	09/29/2010	4.0-5.0	Barium	46	mg/kg		300	300	230
SB-06	09/29/2010	4.0-5.0	Cadmium	0.27	mg/kg	J	0.755	0.755	0.78
SB-06	09/29/2010	4.0-5.0	Chromium	13	mg/kg		1200	1200	NV
SB-06	09/29/2010	4.0-5.0	Dieldrin	0.00058	mg/kg	J	0.0244	0.0547	0.41
SB-06	09/29/2010	4.0-5.0	Lead	4.7	mg/kg		15	15	280
SB-06	09/29/2010	4.0-5.0	Mercury	0.020	mg/kg		0.04	0.04	0.04
SB-06	09/29/2010	4.0-5.0	Toxaphene	0.069	mg/kg	J	1.24	5.75	17
SB-07	09/29/2010	0-0.5	4,4'-DDE	0.0019	mg/kg	J	5.89	13.2	73
SB-07	09/29/2010	0-0.5	4,4'-DDT	0.0032	mg/kg		5.39	16.5	73
SB-07	09/29/2010	0-0.5	Arsenic	**11***	mg/kg		5.9	5.9	5.9
SB-07	09/29/2010	0-0.5	Barium	140	mg/kg		300	300	230
SB-07	09/29/2010	0-0.5	Cadmium	0.30	mg/kg	J	0.755	0.755	0.78
SB-07	09/29/2010	0-0.5	Chromium	29	mg/kg		1200	1200	NV
SB-07	09/29/2010	0-0.5	Dieldrin	0.00094	mg/kg	J	0.0244	0.0547	0.41
SB-07	09/29/2010	0-0.5	Endosulfan II	0.00047	mg/kg	J	46.2	138	NV
SB-07	09/29/2010	0-0.5	Lead	14	mg/kg		15	15	280
SB-07	09/29/2010	0-0.5	Mercury	0.0079	mg/kg	J	0.04	0.04	0.04
SB-07	09/29/2010	0-0.5	Toxaphene	0.053	mg/kg	J	1.24	5.75	17
SB-07	09/29/2010	4.0-5.0	4,4'-DDE	0.00057	mg/kg	J	5.89	13.2	73
SB-07	09/29/2010	4.0-5.0	4,4'-DDT	0.0017	mg/kg	J	5.39	16.5	73

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Soil Detections and Exceedances
Targeted Brownfields Assessment Phase II Environmental Site Assessment
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Sample ID	Sample Date	Sample Depth (ft)	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential Soil PCLs (mg/kg)	TRRP Tier 1 Critical Commercial Soil PCLs (mg/kg)	Tier 2 Critical Commercial Soil PCL (mg/kg)
SB-07	09/29/2010	4.0-5.0	Arsenic	4.3	mg/kg		5.9	5.9	5.9
SB-07	09/29/2010	4.0-5.0	Barium	26	mg/kg		300	300	230
SB-07	09/29/2010	4.0-5.0	Cadmium	0.18	mg/kg	J	0.755	0.755	0.78
SB-07	09/29/2010	4.0-5.0	Chromium	7.9	mg/kg	J	1200	1200	NV
SB-07	09/29/2010	4.0-5.0	Lead	3.2	mg/kg	J	15	15	280
SB-07	09/29/2010	4.0-5.0	Selenium	0.97	mg/kg	J	1.15	1.15	1.2
SB-08	09/29/2010	0-0.5	Arsenic	**8.1***	mg/kg		5.9	5.9	5.9
SB-08	09/29/2010	0-0.5	Barium	140	mg/kg		300	300	230
SB-08	09/29/2010	0-0.5	Cadmium	0.19	mg/kg	J	0.755	0.755	0.78
SB-08	09/29/2010	0-0.5	Chromium	24	mg/kg		1200	1200	NV
SB-08	09/29/2010	0-0.5	Lead	11	mg/kg		15	15	280
SB-08	09/29/2010	0-0.5	Mercury	0.010	mg/kg	J	0.04	0.04	0.04
SB-08	09/29/2010	4.0-5.0	Arsenic	**8.2***	mg/kg		5.9	5.9	5.9
SB-08	09/29/2010	4.0-5.0	Barium	170	mg/kg		300	300	230
SB-08	09/29/2010	4.0-5.0	Cadmium	0.16	mg/kg	J	0.755	0.755	0.78
SB-08	09/29/2010	4.0-5.0	Chromium	16	mg/kg		1200	1200	NV
SB-08	09/29/2010	4.0-5.0	Lead	11	mg/kg		15	15	280
SB-09	09/29/2010	0-0.5	4,4'-DDE	0.021	mg/kg		5.89	13.2	73
SB-09	09/29/2010	0-0.5	4,4'-DDT	0.010	mg/kg		5.39	16.5	73
SB-09	09/29/2010	0-0.5	Arsenic	**11***	mg/kg		5.9	5.9	5.9
SB-09	09/29/2010	0-0.5	Barium	110	mg/kg		300	300	230
SB-09	09/29/2010	0-0.5	Cadmium	0.17	mg/kg	J	0.755	0.755	0.78
SB-09	09/29/2010	0-0.5	Chromium	21	mg/kg		1200	1200	NV
SB-09	09/29/2010	0-0.5	Endosulfan II	0.0068	mg/kg	J	46.2	138	NV
SB-09	09/29/2010	0-0.5	Endrin ketone	0.0015	mg/kg	J	18.6	76.1	NV
SB-09	09/29/2010	0-0.5	Lead	11	mg/kg		15	15	280
SB-09	09/29/2010	0-0.5	Mercury	0.0097	mg/kg	J	0.04	0.04	0.04
SB-09	09/29/2010	0-0.5	Toxaphene	0.19	mg/kg	J	1.24	5.75	17
SB-09	09/29/2010	4.0-5.0	4,4'-DDE	0.0045	mg/kg		5.89	13.2	73
SB-09	09/29/2010	4.0-5.0	4,4'-DDT	0.0035	mg/kg	J	5.39	16.5	73

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Soil Detections and Exceedances
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Sample ID	Sample Date	Sample Depth (ft)	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential Soil PCLs (mg/kg)	TRRP Tier 1 Critical Commercial Soil PCLs (mg/kg)	Tier 2 Critical Commercial Soil PCL (mg/kg)
SB-09	09/29/2010	4.0-5.0	Arsenic	**10***	mg/kg		5.9	5.9	5.9
SB-09	09/29/2010	4.0-5.0	Barium	50	mg/kg		300	300	230
SB-09	09/29/2010	4.0-5.0	Cadmium	0.17	mg/kg	J	0.755	0.755	0.78
SB-09	09/29/2010	4.0-5.0	Chromium	17	mg/kg	J	1200	1200	NV
SB-09	09/29/2010	4.0-5.0	Endosulfan II	0.0018	mg/kg	J	46.2	138	NV
SB-09	09/29/2010	4.0-5.0	Lead	5.7	mg/kg	J	15	15	280
SB-09	09/29/2010	4.0-5.0	Toxaphene	0.058	mg/kg	J	1.24	5.75	17
SB-10	09/29/2010	0-0.5	4,4'-DDE	0.0015	mg/kg	J	5.89	13.2	73
SB-10	09/29/2010	0-0.5	4,4'-DDT	0.0021	mg/kg	J	5.39	16.5	73
SB-10	09/29/2010	0-0.5	Arsenic	**7.6***	mg/kg		5.9	5.9	5.9
SB-10	09/29/2010	0-0.5	Barium	110	mg/kg		300	300	230
SB-10	09/29/2010	0-0.5	Cadmium	0.16	mg/kg	J	0.755	0.755	0.78
SB-10	09/29/2010	0-0.5	Chromium	20	mg/kg		1200	1200	NV
SB-10	09/29/2010	0-0.5	Lead	12	mg/kg		15	15	280
SB-10	09/29/2010	0-0.5	Mercury	0.012	mg/kg	J	0.04	0.04	0.04
SB-10	09/29/2010	4.0-5.0	4,4'-DDE	0.0012	mg/kg	J	5.89	13.2	73
SB-10	09/29/2010	4.0-5.0	4,4'-DDT	0.013	mg/kg		5.39	16.5	73
SB-10	09/29/2010	4.0-5.0	Arsenic	**8.1***	mg/kg		5.9	5.9	5.9
SB-10	09/29/2010	4.0-5.0	Barium	110	mg/kg		300	300	230
SB-10	09/29/2010	4.0-5.0	Cadmium	0.14	mg/kg	J	0.755	0.755	0.78
SB-10	09/29/2010	4.0-5.0	Chromium	6.6	mg/kg		1200	1200	NV
SB-10	09/29/2010	4.0-5.0	Dieldrin	0.00045	mg/kg	J	0.0244	0.0547	0.41
SB-10	09/29/2010	4.0-5.0	Lead	4.9	mg/kg		15	15	280
SB-10	09/29/2010	4.0-5.0	Toxaphene	0.043	mg/kg	J	1.24	5.75	17
SB-11	09/29/2010	0-0.5	4,4'-DDE	0.0065	mg/kg		5.89	13.2	73
SB-11	09/29/2010	0-0.5	4,4'-DDT	0.020	mg/kg		5.39	16.5	73
SB-11	09/29/2010	0-0.5	Arsenic	**9.4***	mg/kg		5.9	5.9	5.9
SB-11	09/29/2010	0-0.5	Barium	130	mg/kg		300	300	230
SB-11	09/29/2010	0-0.5	Cadmium	0.16	mg/kg	J	0.755	0.755	0.78
SB-11	09/29/2010	0-0.5	Chromium	25	mg/kg		1200	1200	NV

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SB-11	09/29/2010	0-0.5	Dieldrin	0.00080	mg/kg	J	0.0244	0.0547	0.41
SB-11	09/29/2010	0-0.5	Endosulfan II	0.00093	mg/kg	J	46.2	138	NV
SB-11	09/29/2010	0-0.5	Endosulfan sulfate	0.0014	mg/kg	J	385	4090	NV
SB-11	09/29/2010	0-0.5	Lead	11	mg/kg		15	15	280
SB-11	09/29/2010	0-0.5	Mercury	0.0092	mg/kg	J	0.04	0.04	0.04
SB-11	09/29/2010	0-0.5	Toxaphene	0.094	mg/kg	J	1.24	5.75	17
SB-11	09/29/2010	4.0-5.0	4,4'-DDE	0.0059	mg/kg		5.89	13.2	73
SB-11	09/29/2010	4.0-5.0	4,4'-DDT	0.019	mg/kg		5.39	16.5	73
SB-11	09/29/2010	4.0-5.0	Arsenic	**7.1***	mg/kg		5.9	5.9	5.9
SB-11	09/29/2010	4.0-5.0	Barium	36	mg/kg		300	300	230
SB-11	09/29/2010	4.0-5.0	Cadmium	0.11	mg/kg	J	0.755	0.755	0.78
SB-11	09/29/2010	4.0-5.0	Chromium	11	mg/kg		1200	1200	NV
SB-11	09/29/2010	4.0-5.0	Dieldrin	0.00078	mg/kg	J	0.0244	0.0547	0.41
SB-11	09/29/2010	4.0-5.0	Endosulfan sulfate	0.0011	mg/kg	J	385	4090	NV
SB-11	09/29/2010	4.0-5.0	Lead	4.8	mg/kg		15	15	280
SB-11	09/29/2010	4.0-5.0	Toxaphene	0.080	mg/kg	J	1.24	5.75	17
SB-12	09/28/2010	0-0.5	Arsenic	**9.5***	mg/kg		5.9	5.9	5.9
SB-12	09/28/2010	0-0.5	Barium	140	mg/kg		300	300	230
SB-12	09/28/2010	0-0.5	Cadmium	0.24	mg/kg	J	0.755	0.755	0.78
SB-12	09/28/2010	0-0.5	Chromium	24	mg/kg		1200	1200	NV
SB-12	09/28/2010	0-0.5	Lead	**15**	mg/kg		15	15	280
SB-12	09/28/2010	0-0.5	Mercury	0.0078	mg/kg	J	0.04	0.04	0.04
SB-12	09/28/2010	4.0-5.0	Arsenic	**7.9***	mg/kg		5.9	5.9	5.9
SB-12	09/28/2010	4.0-5.0	Barium	88	mg/kg		300	300	230
SB-12	09/28/2010	4.0-5.0	Cadmium	0.25	mg/kg	J	0.755	0.755	0.78
SB-12	09/28/2010	4.0-5.0	Chromium	11	mg/kg		1200	1200	NV
SB-12	09/28/2010	4.0-5.0	Lead	5.3	mg/kg		15	15	280
SB-13	09/29/2010	0-0.5	4,4'-DDE	0.00033	mg/kg	J	5.89	13.2	73
SB-13	09/29/2010	0-0.5	4,4'-DDT	0.00099	mg/kg	J	5.39	16.5	73
SB-13	09/29/2010	0-0.5	Arsenic	3.3	mg/kg		5.9	5.9	5.9

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SB-13	09/29/2010	0-0.5	Barium	82	mg/kg		300	300	230
SB-13	09/29/2010	0-0.5	Cadmium	0.11	mg/kg	J	0.755	0.755	0.78
SB-13	09/29/2010	0-0.5	Chromium	13	mg/kg		1200	1200	NV
SB-13	09/29/2010	0-0.5	Lead	5.3	mg/kg		15	15	280
SB-13	09/29/2010	0-0.5	Mercury	0.0062	mg/kg	J	0.04	0.04	0.04
SB-13	09/29/2010	4.0-5.0	Arsenic	3.3	mg/kg		5.9	5.9	5.9
SB-13	09/29/2010	4.0-5.0	Barium	66	mg/kg		300	300	230
SB-13	09/29/2010	4.0-5.0	Cadmium	0.081	mg/kg	J	0.755	0.755	0.78
SB-13	09/29/2010	4.0-5.0	Chromium	14	mg/kg		1200	1200	NV
SB-13	09/29/2010	4.0-5.0	Lead	5.1	mg/kg		15	15	280
SB-13	09/29/2010	4.0-5.0	Mercury	0.0087	mg/kg	J	0.04	0.04	0.04
SS-1	7/20/2006	0-0.5	4,4-DDE	1.27	mg/kg		5.89	13.2	73
SS-1	7/20/2006	0-0.5	4,4-DDT	1.37	mg/kg		5.39	16.5	73
SS-1	7/20/2006	0-0.5	Arsenic	**23***	mg/kg		5.9	5.9	5.9
SS-1	7/20/2006	0-0.5	Barium	128	mg/kg		300	300	230
SS-1	7/20/2006	0-0.5	Cadmium	0.0919	mg/kg	J	0.755	0.755	0.78
SS-1	7/20/2006	0-0.5	Chromium	19.2	mg/kg		1200	1200	NV
SS-1	7/20/2006	0-0.5	Lead	10.3	mg/kg		15	15	280
SS-1	7/20/2006	0-0.5	Mercury	0.00917	mg/kg		0.04	0.04	0.04
SS-1	7/20/2006	0-0.5	Selenium	<0.397	mg/kg		1.15	1.15	1.2
SS-1	7/20/2006	0-0.5	Silver	<0.0992	mg/kg		0.239	0.715	1.1
SS-1	7/20/2006	0-0.5	Toxaphene	**8.59**	mg/kg		1.24	5.75	17
SS-3	7/20/2006	0-0.5	4,4-DDE	0.734	mg/kg		5.89	13.2	73
SS-3	7/20/2006	0-0.5	4,4-DDT	1.53	mg/kg		5.39	16.5	73
SS-3	7/20/2006	0-0.5	Arsenic	**71.1**	mg/kg		5.9	5.9	5.9
SS-3	7/20/2006	0-0.5	Barium	26.7	mg/kg		300	300	230
SS-3	7/20/2006	0-0.5	Cadmium	0.118	mg/kg	J	0.755	0.755	0.78
SS-3	7/20/2006	0-0.5	Chromium	9.68	mg/kg		1200	1200	NV
SS-3	7/20/2006	0-0.5	Dieldrin	**0.309**	mg/kg		0.0244	0.0547	0.41
SS-3	7/20/2006	0-0.5	Lead	7.29	mg/kg		15	15	280

Table 14
Soil Detections and Exceedances
Targeted Brownfields Assessment Phase II Environmental Site Assessment
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Sample ID	Sample Date	Sample Depth (ft)	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential Soil PCLs (mg/kg)	TRRP Tier 1 Critical Commercial Soil PCLs (mg/kg)	Tier 2 Critical Commercial Soil PCL (mg/kg)
SS-3	7/20/2006	0-0.5	Mercury	**0.06806**	mg/kg		0.04	0.04	0.04
SS-3	7/20/2006	0-0.5	Selenium	<0.487	mg/kg		1.15	1.15	1.2
SS-3	7/20/2006	0-0.5	Silver	0.145	mg/kg	J	0.239	0.715	1.1
SS-3	7/20/2006	0-0.5	Toxaphene	**25**	mg/kg		1.24	5.75	17
SS-4	7/20/2006	0-0.5	4,4'-DDD	0.092	mg/kg		6.48	14.5	NV
SS-4	7/20/2006	0-0.5	4,4-DDE	0.498	mg/kg		5.89	13.2	73
SS-4	7/20/2006	0-0.5	4,4-DDT	0.371	mg/kg		5.39	16.5	73
SS-4	7/20/2006	0-0.5	a-BHC	**0.0225**	mg/kg		0.00369	0.00886	0.065
SS-4	7/20/2006	0-0.5	Arsenic	**179**	mg/kg		5.9	5.9	5.9
SS-4	7/20/2006	0-0.5	Barium	202	mg/kg		300	300	230
SS-4	7/20/2006	0-0.5	b-BHC	**0.016**	mg/kg		0.0145	0.0324	0.24
SS-4	7/20/2006	0-0.5	Cadmium	<0.0346	mg/kg		0.755	0.755	0.78
SS-4	7/20/2006	0-0.5	Chromium	25.5	mg/kg		1200	1200	NV
SS-4	7/20/2006	0-0.5	d-BHC	0.0236	mg/kg		0.0868	0.194	1.5
SS-4	7/20/2006	0-0.5	Dursban (chlropyrifos)	0.000527	mg/kg	J	7.42	22.2	NV
SS-4	7/20/2006	0-0.5	Ethyl Parathion	0.000431	mg/kg	J	NV	NV	NV
SS-4	7/20/2006	0-0.5	g-BHC	**0.0182**	mg/kg		0.00458	0.00458	0.034
SS-4	7/20/2006	0-0.5	Lead	14.7	mg/kg		15	15	280
SS-4	7/20/2006	0-0.5	Malathion	0.0016	mg/kg		3.29	9.82	NV
SS-4	7/20/2006	0-0.5	Mercury	0.02648	mg/kg		0.04	0.04	0.04
SS-4	7/20/2006	0-0.5	Selenium	<0.415	mg/kg		1.15	1.15	1.2
SS-4	7/20/2006	0-0.5	Silver	<0.104	mg/kg		0.239	0.715	1.1
SS-4	7/20/2006	0-0.5	Toxaphene	**8.41**	mg/kg		1.24	5.75	17
SS-5	7/20/2006	0-0.5	4,4-DDE	0.0098	mg/kg		5.89	13.2	73
SS-5	7/20/2006	0-0.5	4,4-DDT	0.00958	mg/kg		5.39	16.5	73
SS-5	7/20/2006	0-0.5	Arsenic	**33.8**	mg/kg		5.9	5.9	5.9
SS-5	7/20/2006	0-0.5	Barium	173	mg/kg		300	300	230
SS-5	7/20/2006	0-0.5	Cadmium	<0.0362	mg/kg		0.755	0.755	0.78
SS-5	7/20/2006	0-0.5	Chromium	32.1	mg/kg		1200	1200	NV
SS-5	7/20/2006	0-0.5	d-BHC	0.00361	mg/kg		0.0868	0.194	0.24

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Sample ID	Sample Date	Sample Depth (ft)	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential Soil PCLs (mg/kg)	TRRP Tier 1 Critical Commercial Soil PCLs (mg/kg)	Tier 2 Critical Commercial Soil PCL (mg/kg)
SS-5	7/20/2006	0-0.5	Lead	**33**	mg/kg		15	15	280
SS-5	7/20/2006	0-0.5	Mercury	0.0191	mg/kg		0.04	0.04	0.04
SS-5	7/20/2006	0-0.5	Selenium	<0434	mg/kg		1.15	1.15	1.2
SS-5	7/20/2006	0-0.5	Silver	<0.109	mg/kg		0.239	0.715	1.1
SS-5	7/20/2006	0-0.5	Toxaphene	**2.97**	mg/kg		1.24	5.75	17
SS-6	7/20/2006	0-0.5	4,4-DDE	**13.1**	mg/kg		5.89	13.2	73
SS-6	7/20/2006	0-0.5	4,4-DDT	**17.2**	mg/kg		5.39	16.5	73
SS-6	7/20/2006	0-0.5	Arsenic	**372**	mg/kg		5.9	5.9	5.9
SS-6	7/20/2006	0-0.5	Barium	91	mg/kg		300	300	230
SS-6	7/20/2006	0-0.5	Cadmium	0.599	mg/kg	J	0.755	0.755	0.78
SS-6	7/20/2006	0-0.5	Chromium	23.9	mg/kg		1200	1200	NV
SS-6	7/20/2006	0-0.5	Dieldrin	**4.85**	mg/kg		0.0244	0.0547	0.41
SS-6	7/20/2006	0-0.5	Ethyl Parathion	0.00299	mg/kg	J	NV	NV	NV
SS-6	7/20/2006	0-0.5	Lead	**52.8**	mg/kg		15	15	280
SS-6	7/20/2006	0-0.5	Mercury	**0.27918**	mg/kg		0.04	0.04	0.04
SS-6	7/20/2006	0-0.5	Selenium	<0.404	mg/kg		1.15	1.15	1.2
SS-6	7/20/2006	0-0.5	Silver	<0.101	mg/kg		0.239	0.715	1.1
SS-6	7/20/2006	0-0.5	Toxaphene	**239**	mg/kg		1.24	5.75	17
SS-9	7/20/2006	0-0.5	4,4-DDE	0.459	mg/kg		5.89	13.2	73
SS-9	7/20/2006	0-0.5	4,4-DDT	0.421	mg/kg		5.39	16.5	73
SS-9	7/20/2006	0-0.5	Arsenic	**31.5**	mg/kg		5.9	5.9	5.9
SS-9	7/20/2006	0-0.5	Barium	272	mg/kg		300	300	230
SS-9	7/20/2006	0-0.5	Cadmium	0.0713	mg/kg	J	0.755	0.755	0.78
SS-9	7/20/2006	0-0.5	Chromium	31.8	mg/kg		1200	1200	NV
SS-9	7/20/2006	0-0.5	Dieldrin	**0.249**	mg/kg		0.0244	0.0547	0.41
SS-9	7/20/2006	0-0.5	Ethyl Parathion	0.00393	mg/kg	J	NV	NV	NV
SS-9	7/20/2006	0-0.5	Lead	**23.7**	mg/kg		15	15	280
SS-9	7/20/2006	0-0.5	Mercury	0.02299	mg/kg		0.04	0.04	0.04
SS-9	7/20/2006	0-0.5	Selenium	<0.424	mg/kg		1.15	1.15	1.2
SS-9	7/20/2006	0-0.5	Silver	<0.106	mg/kg		0.239	0.715	1.1

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Sample ID	Sample Date	Sample Depth (ft)	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential Soil PCLs (mg/kg)	TRRP Tier 1 Critical Commercial Soil PCLs (mg/kg)	Tier 2 Critical Commercial Soil PCL (mg/kg)
SS-9	7/20/2006	0-0.5	Toxaphene	**4.45**	mg/kg		1.24	5.75	17
SS-12	7/20/2006	0-0.5	4,4-DDE	**8.25**	mg/kg		5.89	13.2	73
SS-12	7/20/2006	0-0.5	4,4-DDT	**36.9**	mg/kg		5.39	16.5	73
SS-12	7/20/2006	0-0.5	a-BHC	**2.38**	mg/kg		0.00369	0.00886	0.065
SS-12	7/20/2006	0-0.5	Arsenic	**836**	mg/kg		5.9	5.9	5.9
SS-12	7/20/2006	0-0.5	Barium	210	mg/kg		300	300	230
SS-12	7/20/2006	0-0.5	b-BHC	**1.87**	mg/kg		0.0145	0.0324	0.24
SS-12	7/20/2006	0-0.5	Cadmium	**2.31**	mg/kg		0.755	0.755	0.78
SS-12	7/20/2006	0-0.5	Chromium	34.1	mg/kg		1200	1200	NV
SS-12	7/20/2006	0-0.5	d-BHC	**2.5**	mg/kg		0.0868	0.194	1.5
SS-12	7/20/2006	0-0.5	Dieldrin	**5.76**	mg/kg		0.0244	0.0547	0.41
SS-12	7/20/2006	0-0.5	Ethyl Parathion	0.0551	mg/kg		NV	NV	NV
SS-12	7/20/2006	0-0.5	g-BHC	**1.93**	mg/kg		0.00458	0.00458	0.034
SS-12	7/20/2006	0-0.5	Lead	**10200**	mg/kg		15	15	280
SS-12	7/20/2006	0-0.5	Mercury	**0.35389**	mg/kg		0.04	0.04	0.04
SS-12	7/20/2006	0-0.5	Selenium	<0.437	mg/kg		1.15	1.15	1.2
SS-12	7/20/2006	0-0.5	Silver	<0.109	mg/kg		0.239	0.715	1.1
SS-12	7/20/2006	0-0.5	Toxaphene	**393**	mg/kg		1.24	5.75	17
SS-13	7/20/2006	0-0.5	4,4-DDE	**15.2**	mg/kg		5.89	13.2	73
SS-13	7/20/2006	0-0.5	4,4-DDT	**47.6**	mg/kg		5.39	16.5	73
SS-13	7/20/2006	0-0.5	a-BHC	**0.00722**	mg/kg		0.00369	0.00886	0.065
SS-13	7/20/2006	0-0.5	Arsenic	**686**	mg/kg		5.9	5.9	5.9
SS-13	7/20/2006	0-0.5	Barium	92.3	mg/kg		300	300	230
SS-13	7/20/2006	0-0.5	Cadmium	**1.2**	mg/kg	J	0.755	0.755	0.78
SS-13	7/20/2006	0-0.5	Chromium	14.3	mg/kg		1200	1200	NV
SS-13	7/20/2006	0-0.5	Dieldrin	**9.56**	mg/kg		0.0244	0.0547	0.41
SS-13	7/20/2006	0-0.5	Dursban (chlropyrifos)	0.0228	mg/kg		7.42	22.2	NV
SS-13	7/20/2006	0-0.5	Ethyl Parathion	0.0423	mg/kg		NV	NV	NV
SS-13	7/20/2006	0-0.5	Lead	**88.6**	mg/kg		15	15	280
SS-13	7/20/2006	0-0.5	Malathion	0.0132	mg/kg		3.29	9.82	NV

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SS-13	7/20/2006	0-0.5	Mercury	**1.3451**	mg/kg		0.04	0.04	0.04
SS-13	7/20/2006	0-0.5	Selenium	**1.56**	mg/kg		1.15	1.15	1.2
SS-13	7/20/2006	0-0.5	Silver	0.16	mg/kg	J	0.239	0.715	1.1
SS-13	7/20/2006	0-0.5	Toxaphene	**563**	mg/kg		1.24	5.75	17
SS-14	7/20/2006	0-0.5	4,4-DDE	0.422	mg/kg		5.89	13.2	73
SS-14	7/20/2006	0-0.5	4,4-DDT	0.281	mg/kg		5.39	16.5	73
SS-14	7/20/2006	0-0.5	Arsenic	**968**	mg/kg		5.9	5.9	5.9
SS-14	7/20/2006	0-0.5	Barium	**400**	mg/kg		300	300	230
SS-14	7/20/2006	0-0.5	Cadmium	<0.0388	mg/kg		0.755	0.755	0.78
SS-14	7/20/2006	0-0.5	Chromium	38.2	mg/kg		1200	1200	NV
SS-14	7/20/2006	0-0.5	Lead	**27.4**	mg/kg		15	15	280
SS-14	7/20/2006	0-0.5	Mercury	**0.03689**	mg/kg		0.04	0.04	0.04
SS-14	7/20/2006	0-0.5	Selenium	<0.466	mg/kg		1.15	1.15	1.2
SS-14	7/20/2006	0-0.5	Silver	<0.116	mg/kg		0.239	0.715	1.1
SS-14	7/20/2006	0-0.5	Toxaphene	**11.3**	mg/kg		1.24	5.75	17
SS-15	7/20/2006	0-0.5	2,4-Dichlorophenoxyacetic a	0.0218	mg/kg		1.31	1.31	NV
SS-15	7/20/2006	0-0.5	4,4-DDE	0.676	mg/kg		5.89	13.2	73
SS-15	7/20/2006	0-0.5	4,4-DDT	0.494	mg/kg		5.39	16.5	73
SS-15	7/20/2006	0-0.5	Arsenic	**179**	mg/kg		5.9	5.9	5.9
SS-15	7/20/2006	0-0.5	Barium	22.2	mg/kg		300	300	230
SS-15	7/20/2006	0-0.5	Cadmium	0.108	mg/kg	J	0.755	0.755	0.78
SS-15	7/20/2006	0-0.5	Chromium	8.95	mg/kg		1200	1200	NV
SS-15	7/20/2006	0-0.5	Lead	4.27	mg/kg		15	15	280
SS-15	7/20/2006	0-0.5	Malathion	0.0123	mg/kg		3.29	9.82	NV
SS-15	7/20/2006	0-0.5	Mercury	0.03346	mg/kg		0.04	0.04	0.04
SS-15	7/20/2006	0-0.5	Selenium	<0.385	mg/kg		1.15	1.15	1.2
SS-15	7/20/2006	0-0.5	Silver	**0.298**	mg/kg	J	0.239	0.715	1.1
SS-15	7/20/2006	0-0.5	Toxaphene	**60.3**	mg/kg		1.24	5.75	17
SS-16	09/27/2010	0-0.5	4,4'-DDE	0.011	mg/kg		5.89	13.2	73
SS-16	09/27/2010	0-0.5	4,4'-DDT	0.0089	mg/kg	J	5.39	16.5	73

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SS-16	09/27/2010	0-0.5	Arsenic	**43**	mg/kg		5.9	5.9	5.9
SS-16	09/27/2010	0-0.5	Barium	100	mg/kg		300	300	230
SS-16	09/27/2010	0-0.5	Cadmium	0.47	mg/kg	J	0.755	0.755	0.78
SS-16	09/27/2010	0-0.5	Chromium	18	mg/kg		1200	1200	NV
SS-16	09/27/2010	0-0.5	Dieldrin	0.00040	mg/kg	J	0.0244	0.0547	0.41
SS-16	09/27/2010	0-0.5	Endosulfan II	0.0031	mg/kg		46.2	138	NV
SS-16	09/27/2010	0-0.5	Endrin ketone	0.0045	mg/kg	J	18.6	76.1	NV
SS-16	09/27/2010	0-0.5	Lead	**20**	mg/kg		15	15	280
SS-16	09/27/2010	0-0.5	Mercury	0.024	mg/kg		0.04	0.04	0.04
SS-16	09/27/2010	0-0.5	Toxaphene	0.33	mg/kg		1.24	5.75	17
SS-17	09/27/2010	0-0.5	4,4'-DDD	0.015	mg/kg		6.48	14.5	NV
SS-17	09/27/2010	0-0.5	4,4'-DDE	0.81	mg/kg		5.89	13.2	73
SS-17	09/27/2010	0-0.5	4,4'-DDT	0.34	mg/kg		5.39	16.5	73
SS-17	09/27/2010	0-0.5	Arsenic	**43**	mg/kg		5.9	5.9	5.9
SS-17	09/27/2010	0-0.5	Barium	94	mg/kg		300	300	230
SS-17	09/27/2010	0-0.5	Cadmium	0.46	mg/kg	J	0.755	0.755	0.78
SS-17	09/27/2010	0-0.5	Chromium	14	mg/kg		1200	1200	NV
SS-17	09/27/2010	0-0.5	Dieldrin	0.014	mg/kg	J	0.0244	0.0547	0.41
SS-17	09/27/2010	0-0.5	Endosulfan I	0.0023	mg/kg	J	15.4	46	NV
SS-17	09/27/2010	0-0.5	Endosulfan II	0.031	mg/kg	J	46.2	138	NV
SS-17	09/27/2010	0-0.5	Endrin ketone	0.013	mg/kg	J	18.6	76.1	NV
SS-17	09/27/2010	0-0.5	Lead	9.9	mg/kg		15	15	280
SS-17	09/27/2010	0-0.5	Mercury	0.023	mg/kg		0.04	0.04	0.04
SS-17	09/27/2010	0-0.5	Toxaphene	**1.7**	mg/kg		1.24	5.75	17
SS-18	09/27/2010	0-0.5	4,4'-DDE	**24**	mg/kg		5.89	13.2	73
SS-18	09/27/2010	0-0.5	4,4'-DDT	**32**	mg/kg		5.39	16.5	73
SS-18	09/27/2010	0-0.5	Arsenic	**130**	mg/kg		5.9	5.9	5.9
SS-18	09/27/2010	0-0.5	Barium	150	mg/kg		300	300	230
SS-18	09/27/2010	0-0.5	Cadmium	**1.3**	mg/kg		0.755	0.755	0.78
SS-18	09/27/2010	0-0.5	Chromium	23	mg/kg		1200	1200	NV

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SS-18	09/27/2010	0-0.5	delta-BHC	0.016	mg/kg	J	0.0868	0.194	1.5
SS-18	09/27/2010	0-0.5	Endosulfan II	5.9	mg/kg	J	46.2	138	NV
SS-18	09/27/2010	0-0.5	Endrin ketone	0.93	mg/kg	J	18.6	76.1	NV
SS-18	09/27/2010	0-0.5	Lead	**37**	mg/kg		15	15	280
SS-18	09/27/2010	0-0.5	Mercury	**0.063**	mg/kg		0.04	0.04	0.04
SS-18	09/27/2010	0-0.5	Toxaphene	**180**	mg/kg	J	1.24	5.75	17
SS-19	09/27/2010	0-0.5	4,4'-DDE	0.65	mg/kg		5.89	13.2	73
SS-19	09/27/2010	0-0.5	4,4'-DDT	0.25	mg/kg	J	5.39	16.5	73
SS-19	09/27/2010	0-0.5	Arsenic	**68**	mg/kg		5.9	5.9	5.9
SS-19	09/27/2010	0-0.5	Barium	44	mg/kg		300	300	230
SS-19	09/27/2010	0-0.5	Cadmium	0.69	mg/kg		0.755	0.755	0.78
SS-19	09/27/2010	0-0.5	Chromium	11	mg/kg		1200	1200	NV
SS-19	09/27/2010	0-0.5	Dieldrin	**0.056**	mg/kg	J	0.0244	0.0547	0.41
SS-19	09/27/2010	0-0.5	Endosulfan II	0.14	mg/kg	J	46.2	138	NV
SS-19	09/27/2010	0-0.5	Endrin ketone	0.048	mg/kg		18.6	76.1	NV
SS-19	09/27/2010	0-0.5	Lead	9.4	mg/kg		15	15	280
SS-19	09/27/2010	0-0.5	Mercury	0.033	mg/kg		0.04	0.04	0.04
SS-19	09/27/2010	0-0.5	Selenium	1.3	mg/kg	J	1.15	1.15	1.2
SS-19	09/27/2010	0-0.5	Toxaphene	**7.2**	mg/kg		1.24	5.75	17
SS-20	09/27/2010	0-0.5	4,4'-DDD	1.3	mg/kg		6.48	14.5	NV
SS-20	09/27/2010	0-0.5	4,4'-DDE	5.4	mg/kg		5.89	13.2	73
SS-20	09/27/2010	0-0.5	4,4'-DDT	**15**	mg/kg		5.39	16.5	73
SS-20	09/27/2010	0-0.5	Arsenic	**410**	mg/kg		5.9	5.9	5.9
SS-20	09/27/2010	0-0.5	Barium	60	mg/kg		300	300	230
SS-20	09/27/2010	0-0.5	Cadmium	**3.2**	mg/kg		0.755	0.755	0.78
SS-20	09/27/2010	0-0.5	Chromium	11	mg/kg		1200	1200	NV
SS-20	09/27/2010	0-0.5	Dieldrin	**1.0**	mg/kg	J	0.0244	0.0547	0.41
SS-20	09/27/2010	0-0.5	Endrin	**0.67**	mg/kg		0.375	0.375	NV
SS-20	09/27/2010	0-0.5	Endrin ketone	0.55	mg/kg		18.6	76.1	NV
SS-20	09/27/2010	0-0.5	Lead	11	mg/kg		15	15	280

Table 14
Soil Detections and Exceedances
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Sample ID	Sample Date	Sample Depth (ft)	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential Soil PCLs (mg/kg)	TRRP Tier 1 Critical Commercial Soil PCLs (mg/kg)	Tier 2 Critical Commercial Soil PCL (mg/kg)
SS-20	09/27/2010	0-0.5	Mercury	**0.098**	mg/kg		0.04	0.04	0.04
SS-20	09/27/2010	0-0.5	Toxaphene	**74**	mg/kg		1.24	5.75	17
SS-21	09/27/2010	0-0.5	4,4'-DDE	0.0043	mg/kg		5.89	13.2	73
SS-21	09/27/2010	0-0.5	4,4'-DDT	0.0019	mg/kg	J	5.39	16.5	73
SS-21	09/27/2010	0-0.5	Arsenic	**22***	mg/kg		5.9	5.9	5.9
SS-21	09/27/2010	0-0.5	Barium	130	mg/kg		300	300	230
SS-21	09/27/2010	0-0.5	Cadmium	0.33	mg/kg	J	0.755	0.755	0.78
SS-21	09/27/2010	0-0.5	Chromium	24	mg/kg		1200	1200	NV
SS-21	09/27/2010	0-0.5	Dieldrin	0.00033	mg/kg	J	0.0244	0.0547	0.41
SS-21	09/27/2010	0-0.5	Endosulfan II	0.00067	mg/kg	J	46.2	138	NV
SS-21	09/27/2010	0-0.5	Endrin ketone	0.00069	mg/kg	J	18.6	76.1	NV
SS-21	09/27/2010	0-0.5	Lead	14	mg/kg		15	15	280
SS-21	09/27/2010	0-0.5	Mercury	0.018	mg/kg		0.04	0.04	0.04
SS-21	09/27/2010	0-0.5	Toxaphene	0.13	mg/kg	J	1.24	5.75	17
SS-22	09/27/2010	0-0.5	4,4'-DDE	0.0033	mg/kg		5.89	13.2	73
SS-22	09/27/2010	0-0.5	4,4'-DDT	0.018	mg/kg	J	5.39	16.5	73
SS-22	09/27/2010	0-0.5	Arsenic	**10***	mg/kg		5.9	5.9	5.9
SS-22	09/27/2010	0-0.5	Barium	130	mg/kg		300	300	230
SS-22	09/27/2010	0-0.5	Cadmium	0.21	mg/kg	J	0.755	0.755	0.78
SS-22	09/27/2010	0-0.5	Chromium	19	mg/kg		1200	1200	NV
SS-22	09/27/2010	0-0.5	Endosulfan II	0.0014	mg/kg	J	46.2	138	NV
SS-22	09/27/2010	0-0.5	Endrin ketone	0.0020	mg/kg	J	18.6	76.1	NV
SS-22	09/27/2010	0-0.5	Lead	11	mg/kg		15	15	280
SS-22	09/27/2010	0-0.5	Mercury	0.011	mg/kg	J	0.04	0.04	0.04
SS-22	09/27/2010	0-0.5	Toxaphene	0.16	mg/kg	J	1.24	5.75	17
SS-23	09/27/2010	0-0.5	4,4'-DDE	0.0016	mg/kg	J	5.89	13.2	73
SS-23	09/27/2010	0-0.5	4,4'-DDT	0.0010	mg/kg	J	5.39	16.5	73
SS-23	09/27/2010	0-0.5	Arsenic	**22***	mg/kg		5.9	5.9	5.9
SS-23	09/27/2010	0-0.5	Barium	120	mg/kg		300	300	230
SS-23	09/27/2010	0-0.5	Cadmium	0.31	mg/kg	J	0.755	0.755	0.78

Table 14
Soil Detections and Exceedances
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Sample ID	Sample Date	Sample Depth (ft)	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential Soil PCLs (mg/kg)	TRRP Tier 1 Critical Commercial Soil PCLs (mg/kg)	Tier 2 Critical Commercial Soil PCL (mg/kg)
SS-23	09/27/2010	0-0.5	Chromium	21	mg/kg		1200	1200	NV
SS-23	09/27/2010	0-0.5	Lead	13	mg/kg		15	15	280
SS-23	09/27/2010	0-0.5	Mercury	0.017	mg/kg	J	0.04	0.04	0.04
SS-24	09/27/2010	0-0.5	4,4'-DDE	0.0078	mg/kg		5.89	13.2	73
SS-24	09/27/2010	0-0.5	4,4'-DDT	0.0018	mg/kg	J	5.39	16.5	73
SS-24	09/27/2010	0-0.5	Arsenic	**15***	mg/kg		5.9	5.9	5.9
SS-24	09/27/2010	0-0.5	Barium	110	mg/kg		300	300	230
SS-24	09/27/2010	0-0.5	Cadmium	0.25	mg/kg	J	0.755	0.755	0.78
SS-24	09/27/2010	0-0.5	Chromium	20	mg/kg		1200	1200	NV
SS-24	09/27/2010	0-0.5	Lead	9.6	mg/kg		15	15	280
SS-24	09/27/2010	0-0.5	Mercury	0.0087	mg/kg	J	0.04	0.04	0.04
SS-24	09/27/2010	0-0.5	Toxaphene	0.021	mg/kg	J	1.24	5.75	17
SS-25	09/27/2010	0-0.5	4,4'-DDE	0.00080	mg/kg	J	5.89	13.2	73
SS-25	09/27/2010	0-0.5	4,4'-DDT	0.0013	mg/kg	J	5.39	16.5	73
SS-25	09/27/2010	0-0.5	Arsenic	**13***	mg/kg		5.9	5.9	5.9
SS-25	09/27/2010	0-0.5	Barium	140	mg/kg		300	300	230
SS-25	09/27/2010	0-0.5	Cadmium	0.28	mg/kg	J	0.755	0.755	0.78
SS-25	09/27/2010	0-0.5	Chromium	20	mg/kg		1200	1200	NV
SS-25	09/27/2010	0-0.5	Lead	**20**	mg/kg		15	15	280
SS-25	09/27/2010	0-0.5	Mercury	0.015	mg/kg	J	0.04	0.04	0.04
SS-26	09/27/2010	0-0.5	4,4'-DDE	0.0017	mg/kg	J	5.89	13.2	73
SS-26	09/27/2010	0-0.5	4,4'-DDT	0.0012	mg/kg	J	5.39	16.5	73
SS-26	09/27/2010	0-0.5	Arsenic	**29**	mg/kg		5.9	5.9	5.9
SS-26	09/27/2010	0-0.5	Barium	130	mg/kg		300	300	230
SS-26	09/27/2010	0-0.5	Cadmium	0.38	mg/kg	J	0.755	0.755	0.78
SS-26	09/27/2010	0-0.5	Chromium	22	mg/kg		1200	1200	NV
SS-26	09/27/2010	0-0.5	Endosulfan II	0.00049	mg/kg	J	46.2	138	NV
SS-26	09/27/2010	0-0.5	Lead	**16**	mg/kg		15	15	280
SS-26	09/27/2010	0-0.5	Mercury	0.015	mg/kg	J	0.04	0.04	0.04
SS-27	09/27/2010	0-0.5	4,4'-DDE	0.018	mg/kg	J	5.89	13.2	73

Table 14
Soil Detections and Exceedances
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Sample ID	Sample Date	Sample Depth (ft)	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential Soil PCLs (mg/kg)	TRRP Tier 1 Critical Commercial Soil PCLs (mg/kg)	Tier 2 Critical Commercial Soil PCL (mg/kg)
SS-27	09/27/2010	0-0.5	4,4'-DDT	0.022	mg/kg	J	5.39	16.5	73
SS-27	09/27/2010	0-0.5	Arsenic	**26***	mg/kg	J	5.9	5.9	5.9
SS-27	09/27/2010	0-0.5	Barium	**300**	mg/kg	J	300	300	230
SS-27	09/27/2010	0-0.5	Cadmium	0.53	mg/kg	J	0.755	0.755	0.78
SS-27	09/27/2010	0-0.5	Chromium	17	mg/kg	J	1200	1200	NV
SS-27	09/27/2010	0-0.5	Endosulfan II	0.0069	mg/kg	J	46.2	138	NV
SS-27	09/27/2010	0-0.5	Endrin ketone	0.0048	mg/kg	J	18.6	76.1	NV
SS-27	09/27/2010	0-0.5	Lead	**17**	mg/kg	J	15	15	280
SS-27	09/27/2010	0-0.5	Mercury	0.013	mg/kg	J	0.04	0.04	0.04
SS-27	09/27/2010	0-0.5	Silver	**0.37**	mg/kg	J	0.239	0.715	1.1
SS-27	09/27/2010	0-0.5	Toxaphene	0.31	mg/kg	J	1.24	5.75	17
SS-28	09/27/2010	0-0.5	4,4'-DDE	0.074	mg/kg		5.89	13.2	73
SS-28	09/27/2010	0-0.5	Arsenic	**57**	mg/kg		5.9	5.9	5.9
SS-28	09/27/2010	0-0.5	Barium	150	mg/kg		300	300	230
SS-28	09/27/2010	0-0.5	Cadmium	0.58	mg/kg		0.755	0.755	0.78
SS-28	09/27/2010	0-0.5	Chromium	21	mg/kg		1200	1200	NV
SS-28	09/27/2010	0-0.5	Dieldrin	0.00096	mg/kg	J	0.0244	0.0547	0.41
SS-28	09/27/2010	0-0.5	Endosulfan II	0.019	mg/kg	J	46.2	138	NV
SS-28	09/27/2010	0-0.5	Endrin ketone	0.0040	mg/kg	J	18.6	76.1	NV
SS-28	09/27/2010	0-0.5	Lead	12	mg/kg		15	15	280
SS-28	09/27/2010	0-0.5	Mercury	0.015	mg/kg	J	0.04	0.04	0.04
SS-28	09/27/2010	0-0.5	Toxaphene	0.78	mg/kg		1.24	5.75	17
SS-29	09/27/2010	0-0.5	4,4'-DDE	0.036	mg/kg		5.89	13.2	73
SS-29	09/27/2010	0-0.5	Arsenic	**35**	mg/kg		5.9	5.9	5.9
SS-29	09/27/2010	0-0.5	Barium	110	mg/kg		300	300	230
SS-29	09/27/2010	0-0.5	Cadmium	0.39	mg/kg	J	0.755	0.755	0.78
SS-29	09/27/2010	0-0.5	Chromium	17	mg/kg		1200	1200	NV
SS-29	09/27/2010	0-0.5	Endosulfan II	0.012	mg/kg	J	46.2	138	NV
SS-29	09/27/2010	0-0.5	Endrin ketone	0.0051	mg/kg	J	18.6	76.1	NV
SS-29	09/27/2010	0-0.5	Lead	12	mg/kg		15	15	280

Table 14
Soil Detections and Exceedances
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Sample ID	Sample Date	Sample Depth (ft)	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential Soil PCLs (mg/kg)	TRRP Tier 1 Critical Commercial Soil PCLs (mg/kg)	Tier 2 Critical Commercial Soil PCL (mg/kg)
SS-29	09/27/2010	0-0.5	Mercury	0.015	mg/kg	J	0.04	0.04	0.04
SS-29	09/27/2010	0-0.5	Toxaphene	0.61	mg/kg		1.24	5.75	17
SS-30	09/27/2010	0-0.5	4,4'-DDE	0.020	mg/kg		5.89	13.2	73
SS-30	09/27/2010	0-0.5	4,4'-DDT	0.012	mg/kg	J	5.39	16.5	73
SS-30	09/27/2010	0-0.5	Arsenic	**88**	mg/kg		5.9	5.9	5.9
SS-30	09/27/2010	0-0.5	Barium	**310**	mg/kg		300	300	230
SS-30	09/27/2010	0-0.5	Cadmium	**0.77**	mg/kg		0.755	0.755	0.78
SS-30	09/27/2010	0-0.5	Chromium	14	mg/kg		1200	1200	NV
SS-30	09/27/2010	0-0.5	Endosulfan II	0.012	mg/kg	J	46.2	138	NV
SS-30	09/27/2010	0-0.5	Endrin ketone	0.0059	mg/kg	J	18.6	76.1	NV
SS-30	09/27/2010	0-0.5	Lead	**16**	mg/kg		15	15	280
SS-30	09/27/2010	0-0.5	Mercury	0.016	mg/kg	J	0.04	0.04	0.04
SS-30	09/27/2010	0-0.5	Silver	**0.29**	mg/kg	J	0.239	0.715	1.1
SS-30	09/27/2010	0-0.5	Toxaphene	0.61	mg/kg		1.24	5.75	17

Notes:
J - estimated value
TRRP - Texas Risk Reduction Program
NV - No Value
ft - feet below ground surface
mg/kg - miligram per kiligram
PCLs - Protective Concentration Levels
Bold - exceeds TRRP Tier 1 Critical Residential or Commercial Soil PCLs
Bold and Shaded - exceeds TRRP Tier 1 Critical Residential or Commercial Soil PCLs and Tier 2 Critical Commercial Soil PCLs
Shaded - exceeds Tier 2 Critical Commercial Soil PCLs
* - exceeds either Tier 1 or Tier 2 PCLs but is below site specific background.

Table 15
Groundwater Detections and Exceedances
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Sample ID	Sample Date	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential GW PCLs (mg/L)	TRRP Tier 1 Critical Commercial GW PCLs (mg/L)	Tier 2 Critical Commercial GW PCL (mg/L)
MW-1	10/20/2010	Aldrin	0.000038	mg/L	J	0.0000537	0.00012	NV
MW-1	10/20/2010	delta-BHC	0.00011	mg/L	J	0.000507	0.00114	0.00114
MW-1	10/20/2010	Endosulfan sulfate	0.000044	mg/L	J	0.147	0.438	NV
MW-1	10/20/2010	Endrin ketone	0.000026	mg/L	J	0.00733	0.0219	NV
MW-1	10/20/2010	Heptachlor	0.000026	mg/L	J	0.0004	0.0004	NV
MW-1	10/20/2010	Toxaphene	**0.032**	mg/L		0.003	0.003	0.003
MW-1	7/27/2006	>C12-C28	<0.870	mg/L		0.978	2.92	NV
MW-1	7/27/2006	>C28-C35	<0.470	mg/L		0.978	2.92	NV
MW-1	7/27/2006	2,4-Dichlorophenoxyacetic acid	0.000857	mg/L		0.07	0.07	NV
MW-1	7/27/2006	Arsenic	0.0023	mg/L	J	0.01	0.01	0.01
MW-1	7/27/2006	Barium	0.11045	mg/L		2	2	2
MW-1	7/27/2006	C6-C12	<1.98	mg/L		0.978	2.92	NV
MW-1	7/27/2006	C6-C35	<3.32	mg/L		NV	NV	NV
MW-1	7/27/2006	Cadmium	<0.00015	mg/L		0.005	0.005	0.005
MW-1	7/27/2006	Chromium	0.0018	mg/L		0.1	0.1	NV
MW-1	7/27/2006	Dicamba	0.000559	mg/L		0.733	2.19	NV
MW-1	7/27/2006	Lead	<0.00025	mg/L		0.015	0.015	0.015
MW-1	7/27/2006	Malathion	0.000183	mg/L		0.489	1.46	NV
MW-1	7/27/2006	Mercury	<0.00002	mg/L		0.002	0.002	0.002
MW-1	7/27/2006	Selenium	0.0106	mg/L		0.05	0.05	0.05
MW-1	7/27/2006	Silver	<0.00015	mg/L		0.122	0.365	0.365
MW-2	10/20/2010	4,4'-DDT	0.0015	mg/L	J	0.00268	0.00601	0.00601

Table 15
Groundwater Detections and Exceedances
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Sample ID	Sample Date	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential GW PCLs (mg/L)	TRRP Tier 1 Critical Commercial GW PCLs (mg/L)	Tier 2 Critical Commercial GW PCL (mg/L)
MW-2	10/20/2010	Aldrin	**0.00014**	mg/L	J	0.0000537	0.00012	NV
MW-2	10/20/2010	alpha-BHC	0.000084	mg/L	J	0.000145	0.000324	0.000324
MW-2	10/20/2010	beta-BHC	**0.0014**	mg/L		0.000507	0.00114	0.00114
MW-2	10/20/2010	delta-BHC	0.00049	mg/L		0.000507	0.00114	0.00114
MW-2	10/20/2010	Dieldrin	**0.0029**	mg/L	J	0.000057	0.000128	0.000128
MW-2	10/20/2010	Endrin	**0.0052**	mg/L		0.002	0.002	NV
MW-2	10/20/2010	Endrin ketone	**0.0079**	mg/L		0.00733	0.0219	NV
MW-2	10/20/2010	gamma-BHC (Lindane)	0.000073	mg/L	J	0.0002	0.0002	NV
MW-2	10/20/2010	Heptachlor	0.00023	mg/L		0.0004	0.0004	NV
MW-2	10/20/2010	Methoxychlor	0.0016	mg/L	J	0.04	0.04	NV
MW-2	10/20/2010	Tetrachloroethene	0.00062	mg/L	J	0.005	0.005	NV
MW-2	10/20/2010	Toxaphene	**0.25**	mg/L		0.003	0.003	0.003
MW-2	7/27/2006	>C12-C28	<0.870	mg/L		0.978	2.92	NV
MW-2	7/27/2006	>C28-C35	<0.470	mg/L		0.978	2.92	NV
MW-2	7/27/2006	Arsenic	0.0021	mg/L	J	0.01	0.01	0.01
MW-2	7/27/2006	Barium	0.06595	mg/L		2	2	2
MW-2	7/27/2006	b-BHC	**0.000717**	mg/L		0.000507	0.00114	0.00114
MW-2	7/27/2006	C6-C12	<1.98	mg/L		0.978	2.92	NV
MW-2	7/27/2006	C6-C35	<3.32	mg/L		NV	NV	NV
MW-2	7/27/2006	Cadmium	<0.00015	mg/L		0.005	0.005	0.005
MW-2	7/27/2006	Chromium	0.00105	mg/L	J	0.1	0.1	NV
MW-2	7/27/2006	d-BHC	0.000177	mg/L		0.000507	0.00114	0.00114

Table 15
Groundwater Detections and Exceedances
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Sample ID	Sample Date	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential GW PCLs (mg/L)	TRRP Tier 1 Critical Commercial GW PCLs (mg/L)	Tier 2 Critical Commercial GW PCL (mg/L)
MW-2	7/27/2006	Dicamba	0.000191	mg/L		0.733	2.19	NV
MW-2	7/27/2006	Disulfoton	0.000008	mg/L	J	0.000978	0.00292	NV
MW-2	7/27/2006	Endrin	0.00172	mg/L		0.002	0.002	NV
MW-2	7/27/2006	Endrin Ketone	0.00425	mg/L		0.00733	0.0219	NV
MW-2	7/27/2006	g-BHC	0.00011	mg/L		0.0002	0.0002	NV
MW-2	7/27/2006	Lead	<0.00025	mg/L		0.015	0.015	0.015
MW-2	7/27/2006	Malathion	0.000095	mg/L		0.489	1.46	NV
MW-2	7/27/2006	Mercury	<0.00002	mg/L		0.002	0.002	0.002
MW-2	7/27/2006	Selenium	0.00525	mg/L		0.05	0.05	0.05
MW-2	7/27/2006	Silver	<0.00015	mg/L		0.122	0.365	0.365
MW-2	7/27/2006	Toxaphene	**0.963**	mg/L		0.003	0.003	0.003
MW-3	10/20/2010	Aldrin	0.0000067	mg/L	J	0.0000537	0.00012	NV
MW-3	10/20/2010	cis-1,2-Dichloroethene	0.0029	mg/L		0.005	0.005	NV
MW-3	10/20/2010	delta-BHC	0.000013	mg/L	J	0.000507	0.00114	0.00114
MW-3	10/20/2010	Endosulfan sulfate	0.000018	mg/L	J	0.147	0.438	NV
MW-3	10/20/2010	Endrin ketone	0.000024	mg/L	J	0.00733	0.0219	NV
MW-3	10/20/2010	Heptachlor	0.000012	mg/L	J	0.0004	0.0004	NV
MW-3	10/20/2010	Tetrachloroethene	0.00044	mg/L	J	0.005	0.005	NV
MW-3	10/20/2010	Total Petroleum Hydrocarbons (C6-C35)	1.1	mg/L	J	NV	NV	NV
MW-3	10/20/2010	Toxaphene	**0.013**	mg/L		0.003	0.003	0.003
MW-3	10/20/2010	trans-1,2-Dichloroethene	0.00024	mg/L	J	0.1	0.1	NV
MW-3	10/20/2010	Trichloroethene	0.00047	mg/L	J	0.005	0.005	0.005

Table 15
Groundwater Detections and Exceedances
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Sample ID	Sample Date	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential GW PCLs (mg/L)	TRRP Tier 1 Critical Commercial GW PCLs (mg/L)	Tier 2 Critical Commercial GW PCL (mg/L)
MW-3	7/27/2006	>C12-C28	<0.870	mg/L		0.978	2.92	NV
MW-3	7/27/2006	>C28-C35	<0.470	mg/L		0.978	2.92	NV
MW-3	7/27/2006	2,4,5-Trichlorophenoxyacetic acid	0.00138	mg/L		0.002	0.73	NV
MW-3	7/27/2006	4,4'-DDD	0.000108	mg/L		0.00268	0.00601	NV
MW-3	7/27/2006	Arsenic	0.00175	mg/L	J	0.01	0.01	0.01
MW-3	7/27/2006	Barium	0.08725	mg/L		2	2	2
MW-3	7/27/2006	C6-C12	<1.98	mg/L		0.978	2.92	NV
MW-3	7/27/2006	C6-C35	<3.32	mg/L		NV	NV	NV
MW-3	7/27/2006	Cadmium	<0.00015	mg/L		0.005	0.005	0.005
MW-3	7/27/2006	Chromium	0.0013	mg/L		0.1	0.1	NV
MW-3	7/27/2006	cis-1,2-Dichloroethene	0.0452	mg/L		0.005	0.005	NV
MW-3	7/27/2006	Dicamba	0.00167	mg/L		0.733	2.19	NV
MW-3	7/27/2006	g-BHC	0.0000871	mg/L		0.0002	0.0002	NV
MW-3	7/27/2006	Lead	0.0003	mg/L	J	0.015	0.015	0.015
MW-3	7/27/2006	Malathion	0.000098	mg/L		0.489	1.46	NV
MW-3	7/27/2006	Mercury	<0.00002	mg/L		0.002	0.002	0.002
MW-3	7/27/2006	Selenium	0.0038	mg/L		0.05	0.05	0.05
MW-3	7/27/2006	Silver	<0.00015	mg/L		0.122	0.365	0.365
MW-3	7/27/2006	Silvex	0.000188	mg/L		NV	NV	NV
MW-3	7/27/2006	Tetrachloroethene	0.00371	mg/L		0.005	0.005	NV
MW-3	7/27/2006	Toxaphene	**0.00562**	mg/L		0.003	0.003	0.003
MW-3	7/27/2006	trans-1,2-Dichloroethene	0.00398	mg/L		0.1	0.1	NV

Table 15
Groundwater Detections and Exceedances
Targeted Brownfields Assessment Phase II Environmental Site Assessment
Hillsboro Municipal Airport, Hillsboro, TX

Sample ID	Sample Date	Analyte Name	Result	Result Units	Qualifiers	TRRP Tier 1 Critical Residential GW PCLs (mg/L)	TRRP Tier 1 Critical Commercial GW PCLs (mg/L)	Tier 2 Critical Commercial GW PCL (mg/L)
MW-3	7/27/2006	Trichloroethene	**0.00942**	mg/L		0.005	0.005	0.005
MW-4	10/20/2010	delta-BHC	0.000010	mg/L	J	0.000507	0.00114	0.00114
MW-4	10/20/2010	Endosulfan I	0.00011	mg/L	J	0.0489	0.146	NV
MW-4	10/20/2010	Ethylbenzene	0.00019	mg/L	J	0.7	0.7	NV
MW-4	10/20/2010	Methyl tert-butyl ether	0.0023	mg/L	J	0.244	0.73	NV
MW-5	10/21/2010	Acetone	0.0063	mg/L	J	22	65.7	NV
MW-5	10/21/2010	Carbon disulfide	0.00071	mg/L	J	2.44	7.3	NV
MW-5	11/01/2010	Endosulfan I	0.00015	mg/L		0.0489	0.146	NV

Notes:
J - estimated value
TRRP - Texas Risk Reduction Program
mg/L - miligram per liter
PCLs - Protective Concentration Levels
Bold - exceeds TRRP Tier 1 Critical Residential or Commercial Soil PCLs
Bold and Shaded - exceeds TRRP Tier 1 Critical Residential or Commercial Soil PCLs and Tier 2 Critical Commercial Soil PCLs
NV - No value

APPENDIX A

SITE PHOTO LOG

Stell Environmental Enterprises, Inc. ...The Difference!

PHOTOGRAPHIC LOG

Client Name:	Site Location:	SEE Project No.
US Army Corps of Engineers, Fort Worth	Former Hillsboro Municipal Airport Hillsboro, Texas	03226

Photo No.	Date:
1	7-19-10

Direction Photo Taken:
Northwest

Description:
Former Building 3 foundation with existing building in the background.

Photo No.	Date:
2	7-19-10

Direction Photo Taken:
South

Description:
Existing building taken from CR 4231

Stell Environmental Enterprises, Inc. ...The Difference!

PHOTOGRAPHIC LOG

Client Name:	Site Location:	SEE Project No.
US Army Corps of Engineers, Fort Worth	Former Hillsboro Municipal Airport Hillsboro, Texas	03226

Photo No.	Date:
3	9-27-10

Direction Photo Taken:
South

Description:
Drilling MW-04 behind existing building.

Photo No.	Date:
4	9-27-10

Direction Photo Taken:
North

Description:
Drilling MW-04 behind existing building

Stell Environmental Enterprises, Inc. ...The Difference!

PHOTOGRAPHIC LOG

Client Name:	Site Location:	SEE Project No.
US Army Corps of Engineers, Fort Worth	Former Hillsboro Municipal Airport Hillsboro, Texas	03226

Photo No.	Date:
5	9-27-10

Direction Photo Taken:
Southwest

Description:
Drilling of MW-06 adjacent to Highway 81.

Photo No.	Date:
6	9-27-10

Direction Photo Taken:
West

Description:
Core sample at 30-35 feet. Dry shale found below moist clay.

Stell Environmental Enterprises, Inc. ...The Difference!

PHOTOGRAPHIC LOG

Client Name:	Site Location:	SEE Project No.
US Army Corps of Engineers, Fort Worth	Former Hillsboro Municipal Airport Hillsboro, Texas	03226

Photo No.	Date:
7	9-27-10

Direction Photo Taken:

Description:
Core samples going from moist silty clay (above) to dry shale (below).

Photo No.	Date:
8	9-27-10

Direction Photo Taken:
North

Description:
Drilling MW-05 along Highway 81.

Stell Environmental Enterprises, Inc. ...The Difference!

PHOTOGRAPHIC LOG

Client Name:	Site Location:	SEE Project No.
US Army Corps of Engineers, Fort Worth	Former Hillsboro Municipal Airport Hillsboro, Texas	03226

Photo No.	Date:
9	10-18-10

Direction Photo Taken:
South

Description:
Laptop setup for slug test at MW-07.

Photo No.	Date:
10	10-18-10

Direction Photo Taken:
West

Description:
Slug test setup at MW-07.

Stell Environmental Enterprises, Inc. ...The Difference!

PHOTOGRAPHIC LOG

Client Name:	Site Location:	SEE Project No.
US Army Corps of Engineers, Fort Worth	Former Hillsboro Municipal Airport Hillsboro, Texas	03226

Photo No.	Date:
11	10-18-10

Direction Photo Taken:
South

Description:
Slug test setup at MW-04.

Photo No.	Date:
12	10-18-10

Direction Photo Taken:
North

Description:
Purging and sampling setup at MW-02.

Stell Environmental Enterprises, Inc. ...The Difference!

PHOTOGRAPHIC LOG

Client Name:	Site Location:	SEE Project No.
US Army Corps of Engineers, Fort Worth	Former Hillsboro Municipal Airport Hillsboro, Texas	03226

Photo No.	Date:
13	10-18-10

Direction Photo Taken:
West

Description:
Purging and sampling setup at MW-03.

Photo No.	Date:
14	10-18-10

Direction Photo Taken:
South

Description:
Purging and sampling setup at MW-04.

APPENDIX B

SOIL BORING LOGS

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Airport
LOCATION: Hillsboro, TX
DRILLING AGENCY: Best Drilling Services
HOLE NUMBER: SB-01
NAME OF DRILLER: Sonny Tabolta
DIRECTION OF HOLE: verticle
THICKNESS OF OVERBURDEN: 5 feet bgs
DEPTH DRILED INTO ROCK: 0
TOTAL DEPTH OF HOLE: 5 feet

SIZE AND TYPE OF BIT: 8 1/4" OD HSA
DATUM FOR ELEVATION SHOWN:
MANUFACTURERS DESIGNATION OR DRILL: CME Truck Mounted Rotary Drill
TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 2 UNDISTURBED: 0
TOTAL NUMBER OF CORE BOXES: 0
ELEVATION GROUND WATER: N/A
DATE HOLE: STARTED: 9/29/10 0835 FINISHED: 9/29/10 0845
ELEVATION TOP OF HOLE:
TOTAL CORE RECOVERY: 0
SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	ML		CLAYEY SILT, stiff, plastic, dry, very dark greyish brown, 10YR 3/2	18/24	SB-01-00.5	0		SB-01-00.5-EB collected before drilling begins.
	ML		As Above but yellowish brown, 10YR 5/4	16/24		0		
5				12/12	SB-01-0405	0		Bottom of hole at 5 feet bgs.
10								
15								

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Airport
LOCATION: Hillsboro, TX
DRILLING AGENCY: Best Drilling Services
HOLE NUMBER: SB-02
NAME OF DRILLER: Sonny Tabolta
DIRECTION OF HOLE: verticle
THICKNESS OF OVERBURDEN: 5 feet bgs
DEPTH DRILED INTO ROCK: 0
TOTAL DEPTH OF HOLE: 5 feet

SIZE AND TYPE OF BIT: 8 1/4" OD HSA
DATUM FOR ELEVATION SHOWN:
MANUFACTURERS DESIGNATION OR DRILL: CME Truck Mounted Rotary Drill
TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 2 UNDISTURBED: 0
TOTAL NUMBER OF CORE BOXES: 0
ELEVATION GROUND WATER: N/A
DATE HOLE: STARTED: 9/29/10 0855 FINISHED: 9/29/10 0912
ELEVATION TOP OF HOLE:
TOTAL CORE RECOVERY: 0
SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	CL		SILTY CLAY, stiff, plastic, moist, very dark brown, 10YR 2/2	24/24	SB-02-00.5	0		
	CL		As Above but yellowish brown, 10YR 5/6	16/24		0		
5				12/12	SB-02-0405	0		Bottom of hole at 5 feet bgs.
10								
15								

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Stell Environmental Enterprises, Inc
25 East Main Street
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Project # 03226

HOLE NUMBER: SB-02

(SHEET 1 OF 1)

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DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Airport		SIZE AND TYPE OF BIT: 8 1/4" OD HSA	
LOCATION: Hillsboro, TX		DATUM FOR ELEVATION SHOWN:	
DRILLING AGENCY: Best Drilling Services		MANUFACTURERS DESIGNATION OR DRILL: CME Truck Mounted Rotary Drill	
HOLE NUMBER: SB-03		TOTAL NO. OF OVERBURDEN SAMPLES TAKEN:	DISTURBED: 4 / UNDISTURBED: 0
NAME OF DRILLER: Sonny Tabolta		TOTAL NUMBER OF CORE BOXES: 0	
DIRECTION OF HOLE: verticle		ELEVATION GROUND WATER: N/A	
THICKNESS OF OVERBURDEN: 5 feet bgs		DATE HOLE:	STARTED: 9/29/10 0919 / FINISHED: 9/29/10 0945
DEPTH DRILED INTO ROCK: 0		ELEVATION TOP OF HOLE:	
TOTAL DEPTH OF HOLE: 5 feet		TOTAL CORE RECOVERY: 0	
		SIGNATURE OF INSPECTOR:	

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	CL		SILTY CLAY, stiff, moist, plastic, black, 10YR 2/1	24/24	SB-03-00.5	0		
	CL		As Above but very dark brown, 10YR 2/2	22/24		0		
	CL		SILTY CLAY, traces of gravel, dry, nonplastic, stiff, light yellowish brown, 10YR 6/4	12/12	SB-03-0405	0		SB-03-0405-MS and SB-03-0405-MSD collected with SB-03-0405 Bottom of hole at 5 feet bgs.
5								
10								
15								

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Airport
LOCATION: Hillsboro, TX
DRILLING AGENCY: Best Drilling Services
HOLE NUMBER: SB-04
NAME OF DRILLER: Sonny Tabolta
DIRECTION OF HOLE: verticle
THICKNESS OF OVERBURDEN: 5 feet bgs
DEPTH DRILED INTO ROCK: 0
TOTAL DEPTH OF HOLE: 5 feet

SIZE AND TYPE OF BIT: 8 1/4" OD HSA
DATUM FOR ELEVATION SHOWN:
MANUFACTURERS DESIGNATION OR DRILL: CME Truck Mounted Rotary Drill
TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 3 UNDISTURBED: 0
TOTAL NUMBER OF CORE BOXES: 0
ELEVATION GROUND WATER: N/A
DATE HOLE: STARTED: 9/29/10 0955 FINISHED: 9/29/10 1023
ELEVATION TOP OF HOLE:
TOTAL CORE RECOVERY: 0
SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	CL		SILTY CLAY, stiff, dry, nonplastic, strong brown, 7.5YR 5/6	7/12	SB-04-00.5	0		
	CL		SILTY CLAY, stiff, moist, plastic, black, 10YR 2/1	24/24		0		
				24/24	SB-04-0405	0		SB-QC-01-092910 collected with SB-04-0405
5								Bottom of hole at 5 feet bgs.
10								
15								

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Project # 03226

HOLE NUMBER: SB-04

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DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Airport
LOCATION: Hillsboro, TX
DRILLING AGENCY: Best Drilling Services
HOLE NUMBER: SB-05
NAME OF DRILLER: Sonny Tabolta
DIRECTION OF HOLE: verticle
THICKNESS OF OVERBURDEN: 5 feet bgs
DEPTH DRILED INTO ROCK: 0
TOTAL DEPTH OF HOLE: 5 feet

SIZE AND TYPE OF BIT: 8 1/4" OD HSA
DATUM FOR ELEVATION SHOWN:
MANUFACTURERS DESIGNATION OF DRILL: CME Truck Mounted Rotary Drill
TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 2 UNDISTURBED: 0
TOTAL NUMBER OF CORE BOXES: 0
ELEVATION GROUND WATER: N/A
DATE HOLE: STARTED: 9/29/10 1030 FINISHED: 9/29/10 1045
ELEVATION TOP OF HOLE:
TOTAL CORE RECOVERY: 0
SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	CL		SILTY CLAY, stiff, moist, plastic, black, 10YR 2/1	18/24	SB-05-00.5	0		
	CL		As Above with gravels	14/24		0		
5	CL		SILTY CLAY, traces of gravel, medium stiff, nonplastic, slightly moist, brownish yellow, 10YR 6/6	12/12	SB-05-0405	0		Bottom of hole at 5 feet bgs.
10								
15								

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Stell Environmental Enterprises, Inc
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Project # 03226

HOLE NUMBER: SB-05

(SHEET 1 OF 1)

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DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Airport	SIZE AND TYPE OF BIT: 8 1/4" OD HSA
LOCATION: Hillsboro, TX	DATUM FOR ELEVATION SHOWN:
DRILLING AGENCY: Best Drilling Services	MANUFACTURERS DESIGNATION OF DRILL: CME Truck Mounted Rotary Drill
HOLE NUMBER: SB-06	TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 2 UNDISTURBED: 0
NAME OF DRILLER: Sonny Tabolta	TOTAL NUMBER OF CORE BOXES: 0
DIRECTION OF HOLE: verticle	ELEVATION GROUND WATER: N/A
THICKNESS OF OVERBURDEN: 5 feet bgs	DATE HOLE: STARTED: 9/29/10 1055 FINISHED: 9/29/10 1110
DEPTH DRILED INTO ROCK: 0	ELEVATION TOP OF HOLE:
TOTAL DEPTH OF HOLE: 5 feet	TOTAL CORE RECOVERY: 0
	SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	CL		SILTY CLAY, stiff, plastic, slightly moist, dark brown, 10YR 3/3	24/24	SB-06-00.5	0		
	CL		As Above with gravels and dark yellow brown, 10YR 4/6	16/24		0		
5				8/12	SB-06-0405	0		Bottom of hole at 5 feet bgs.
10								
15								

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Project # 03226

HOLE NUMBER: SB-06

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DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Airport
LOCATION: Hillsboro, TX
DRILLING AGENCY: Best Drilling Services
HOLE NUMBER: SB-07
NAME OF DRILLER: Sonny Tabolta
DIRECTION OF HOLE: verticle
THICKNESS OF OVERBURDEN: 5 feet bgs
DEPTH DRILED INTO ROCK: 0
TOTAL DEPTH OF HOLE: 5 feet

SIZE AND TYPE OF BIT: 8 1/4" OD HSA
DATUM FOR ELEVATION SHOWN:
MANUFACTURERS DESIGNATION OR DRILL: CME Truck Mounted Rotary Drill
TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 3 UNDISTURBED: 0
TOTAL NUMBER OF CORE BOXES: 0
ELEVATION GROUND WATER: N/A
DATE HOLE: STARTED: 9/29/10 1120 FINISHED: 9/29/10 1135
ELEVATION TOP OF HOLE:
TOTAL CORE RECOVERY: 0
SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	CL		SILTY CLAY, slightly moist, plastic, stiff, dark brown, 10YR 3/3	22/24	SB-07-00.5	0		
	CL		As Above moist, brownish yellow, 10YR 6/6	14/24		0		
	CL		As Above with weathered stone incorporated and a white substance.	12/12	SB-07-0405	0		SB-QC-02-092910 collected with SB-07-0405 Bottom of hole at 5 feet bgs.
5								
10								
15								

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Stell Environmental Enterprises, Inc
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Project # 03226

HOLE NUMBER: SB-07

(SHEET 1 OF 1)

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DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Airport
LOCATION: Hillsboro, TX
DRILLING AGENCY: Best Drilling Services
HOLE NUMBER: SB-08
NAME OF DRILLER: Sonny Tabolta
DIRECTION OF HOLE: verticle
THICKNESS OF OVERBURDEN: 5 feet bgs
DEPTH DRILED INTO ROCK: 0
TOTAL DEPTH OF HOLE: 5 feet

SIZE AND TYPE OF BIT: 8 1/4" OD HSA
DATUM FOR ELEVATION SHOWN:
MANUFACTURERS DESIGNATION OR DRILL: CME Truck Mounted Rotary Drill
TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 2 UNDISTURBED: 0
TOTAL NUMBER OF CORE BOXES: 0
ELEVATION GROUND WATER: N/A
DATE HOLE: STARTED: 9/29/10 1400 FINISHED: 9/29/10 1420
ELEVATION TOP OF HOLE:
TOTAL CORE RECOVERY: 0
SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	CL		SILTY CLAY, slightly moist, plastic, stiff, black, 10YR 2/1	14/24	SB-08-00.5	0		
	SC		SANDY CLAY, traces of silt, dry, stiff, nonplastic, greyish brown, 10YR 5/2	22/24		0		
5	CL		SILTY CLAY, slightly moist, semiplastic, stiff, dark yellowish brown, 10YR 4/6	8/12	SB-08-0405	0		Bottom of hole at 5 feet bgs.
10								
15								

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25 East Main Street
Elverson, PA
Project # 03226

HOLE NUMBER: SB-08

(SHEET 1 OF 1)

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Airport
LOCATION: Hillsboro, TX
DRILLING AGENCY: Best Drilling Services
HOLE NUMBER: SB-09
NAME OF DRILLER: Sonny Tabolta
DIRECTION OF HOLE: verticle
THICKNESS OF OVERBURDEN: 5 feet bgs
DEPTH DRILED INTO ROCK: 0
TOTAL DEPTH OF HOLE: 5 feet

SIZE AND TYPE OF BIT: 8 1/4" OD HSA
DATUM FOR ELEVATION SHOWN:
MANUFACTURERS DESIGNATION OR DRILL: CME Truck Mounted Rotary Drill
TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 3 UNDISTURBED: 0
TOTAL NUMBER OF CORE BOXES: 0
ELEVATION GROUND WATER: N/A
DATE HOLE: STARTED: 9/29/10 1430 FINISHED: 9/29/10 1450
ELEVATION TOP OF HOLE:
TOTAL CORE RECOVERY: 0
SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	CL		SILTY CLAY, stiff, plastic, moist, black, 10YR 2/1	22/24	SB-09-00.5	0		
	SC		SANDY CLAY, traces of gravel, stiff, moist, plastic, yellowish brown, 10YR 5/6	22/24		0		SB-QC-03-092910 taken with SB-09-0405
5				9/12	SB-09-0405	0		Bottom of hole at 5 feet bgs.
10								
15								

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Stell Environmental Enterprises, Inc
25 East Main Street
Elverson, PA
Project # 03226

HOLE NUMBER: SB-09

(SHEET 1 OF 1)

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DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Airport
LOCATION: Hillsboro, TX
DRILLING AGENCY: Best Drilling Services
HOLE NUMBER: SB-10
NAME OF DRILLER: Sonny Tabolta
DIRECTION OF HOLE: verticle
THICKNESS OF OVERBURDEN: 5 feet bgs
DEPTH DRILED INTO ROCK: 0
TOTAL DEPTH OF HOLE: 5 feet

SIZE AND TYPE OF BIT: 8 1/4" OD HSA
DATUM FOR ELEVATION SHOWN:
MANUFACTURERS DESIGNATION OR DRILL: CME Truck Mounted Rotary Drill
TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 2 UNDISTURBED: 0
TOTAL NUMBER OF CORE BOXES: 0
ELEVATION GROUND WATER: N/A
DATE HOLE: STARTED: 9/29/10 1520 FINISHED: 9/29/10 1533
ELEVATION TOP OF HOLE:
TOTAL CORE RECOVERY: 0
SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	CL		SILTY CLAY, traces of silt, stiff, moist, plastic, black, 10YR 2/1	12/24	SB-10-00.5	1.0		
	SC		SANDY CLAY, stiff, slightly moist, nonplastic, brownish yellow, 10YR 6/6	24/24		0		
5	SC		SANDY CLAY, traces of gravel, stiff, dry, nonplastic, brown, 10YR 5/3	9/12	SB-10-0405	0		Bottom of hole at 5 feet bgs.
10								
15								

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Stell Environmental Enterprises, Inc
25 East Main Street
Elverson, PA
Project # 03226

HOLE NUMBER: SB-10

(SHEET 1 OF 1)

12-07-2010 N:\Projects\03200 USACE Fort Worth W9126G-06-R-0013\03226 Hillsboro Airport\Field Efforts\Boring Logs\SB-10.bor

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Airport
LOCATION: Hillsboro, TX
DRILLING AGENCY: Best Drilling Services
HOLE NUMBER: SB-11
NAME OF DRILLER: Sonny Tabolta
DIRECTION OF HOLE: verticle
THICKNESS OF OVERBURDEN: 5 feet bgs
DEPTH DRILED INTO ROCK: 0
TOTAL DEPTH OF HOLE: 5 feet

SIZE AND TYPE OF BIT: 8 1/4" OD HSA
DATUM FOR ELEVATION SHOWN:
MANUFACTURERS DESIGNATION OR DRILL: CME Truck Mounted Rotary Drill
TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 2 UNDISTURBED: 0
TOTAL NUMBER OF CORE BOXES: 0
ELEVATION GROUND WATER: N/A
DATE HOLE: STARTED: 9/29/10 1540 FINISHED: 9/29/10 1600
ELEVATION TOP OF HOLE:
TOTAL CORE RECOVERY: 0
SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	CL		SILTY CLAY, plastic, stiff, moist, dark brown, 10YR 2/2	15/24	SB-11-00.5	0		
	ML		SANDY CLAY, traces of gravel, stiff, nonplastic, moist, brownish yellow, 10YR 4/6	22/24		0		
5				12/12	SB-11-0405	0		Bottom of hole at 5 feet bgs.
10								
15								

Stell Environmental Enterprises, Inc. ...The Difference!

Stell Environmental Enterprises, Inc
25 East Main Street
Elverson, PA
Project # 03226

HOLE NUMBER: SB-11

(SHEET 1 OF 1)

12-07-2010 N:\Projects\03200 USACE Fort Worth W9126G-06-R-0013\03226 Hillsboro Airport\Field Efforts\Boring Logs\SB-11.bor

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Airport	SIZE AND TYPE OF BIT: 8 1/4" OD HSA
LOCATION: Hillsboro, TX	DATUM FOR ELEVATION SHOWN:
DRILLING AGENCY: Best Drilling Services	MANUFACTURERS DESIGNATION OF DRILL: CME Truck Mounted Rotary Drill
HOLE NUMBER: SB-12	TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 2 UNDISTURBED: 0
NAME OF DRILLER: Sonny Tabolta	TOTAL NUMBER OF CORE BOXES: 0
DIRECTION OF HOLE: verticle	ELEVATION GROUND WATER: N/A
THICKNESS OF OVERBURDEN: 5 feet bgs	DATE HOLE: STARTED: 9/28/10 1610 FINISHED: 9/28/10 1630
DEPTH DRILED INTO ROCK: 0	ELEVATION TOP OF HOLE:
TOTAL DEPTH OF HOLE: 5 feet	TOTAL CORE RECOVERY: 0
	SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	SM		SANDY SILT, medium stiff, moist, plastic, very dark greyish brown, 10YR 3/2	24/24	SB-12-00.5	0		
	CL		SANDY SILT, traces of gravel, stiff, moist, nonplastic, yellowish brown, 10YR 5/6	24/24		0		
5				12/12	SB-12-0405	0		Bottom of hole at 5 feet bgs.
10								
15								

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Airport
LOCATION: Hillsboro, TX
DRILLING AGENCY: Best Drilling Services
HOLE NUMBER: SB-13
NAME OF DRILLER: Sonny Tabolta
DIRECTION OF HOLE: verticle
THICKNESS OF OVERBURDEN: 5 feet bgs
DEPTH DRILED INTO ROCK: 0
TOTAL DEPTH OF HOLE: 5 feet

SIZE AND TYPE OF BIT: 8 1/4" OD HSA
DATUM FOR ELEVATION SHOWN:
MANUFACTURERS DESIGNATION OR DRILL: CME Truck Mounted Rotary Drill
TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 2 UNDISTURBED: 0
TOTAL NUMBER OF CORE BOXES: 0
ELEVATION GROUND WATER:
DATE HOLE: STARTED: 9/29/10 1610 FINISHED: 9/29/10 1630
ELEVATION TOP OF HOLE:
TOTAL CORE RECOVERY: 0
SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	CL		SILTY CLAY, stiff, moist, plastic, light brownish grey, 10YR 6/2	18/24	SB-13-00.5	0		
	CL		As Above pale brown 10YR 6/3	24/24		0		
	CL		As Above brown and grey mottles	12/12	SB-13-0405	0		Bottom of hole at 5 feet bgs.
5								
10								
15								

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Stell Environmental Enterprises, Inc
25 East Main Street
Elverson, PA
Project # 03226

HOLE NUMBER: SB-13

(SHEET 1 OF 1)

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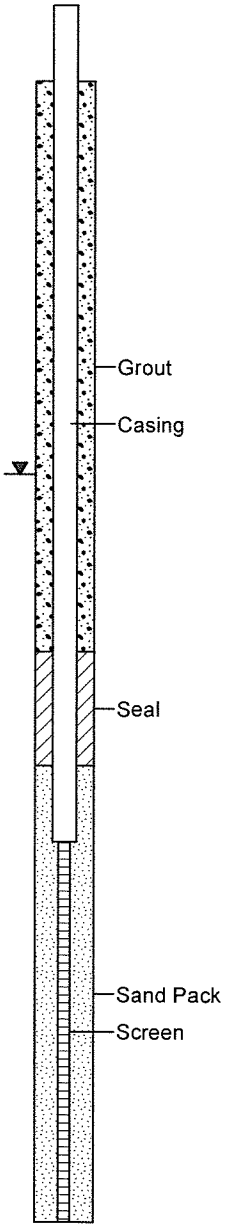
DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Aiport	SIZE AND TYPE OF BIT: 8 1/4" OD HSA
LOCATION: Hillsboro, TX	DATUM FOR ELEVATION SHOWN:
DRILLING AGENCY: Best Drilling Services	MANUFACTURERS DESIGNATION OR DRILL: CME Truck Mounted Rotary Drill
HOLE NUMBER: MW-4	TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 2 UNDISTURBED: 1
NAME OF DRILLER: Sonny Tabalta	TOTAL NUMBER OF CORE BOXES: 0
DIRECTION OF HOLE: Vertical	ELEVATION GROUND WATER: 10.34 feet bgs
THICKNESS OF OVERBURDEN: 30 feet bgs	DATE HOLE: STARTED: 9/27/10 1315 FINISHED: 9/27/10 1515
DEPTH DRILED INTO ROCK: n/a	ELEVATION TOP OF HOLE:
TOTAL DEPTH OF HOLE: 30 feet bgs	TOTAL CORE RECOVERY: 0
	SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	SM		SILTY SAND, stiff, dry, plastic, stong brown, 7.5YR 5/8	24/24	MW-04-0001	0		
	SM		SILTY SAND, fine grained, medium stiff,dry, nonplastic, Brown 10YR 4/3	24/24	Geo-01-0204	0		
5				12/12	MW-04-0405	0		
	CL		SILTY CLAY, medium stiff, moist, semiplastic, Brown 7.5YR 4/4			0		Plastic debris found in bottom of sampler.
				36/60		0		
10			CLAY, stiff, moist, plastic,yellowish brown, 10YR 5/8			0	▼	
				50/60		0		
15	CL					0		
				60/60		0		
20						0		
				60/60		0		
			SILTY CLAY, stiff, wet, plastic, very pale brown, 10YR 7/4			0		Wet soil fist encountered at 24 feet bgs.
25	CL			60/60		0		
						0		
30								Bottom of hole at 30 feet bgs.

Well: MW-4
Elev.:



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Stell Environmental Enterprises, Inc
25 East Main Street
Elverson, PA
Project # 03226

HOLE NUMBER: MW-4

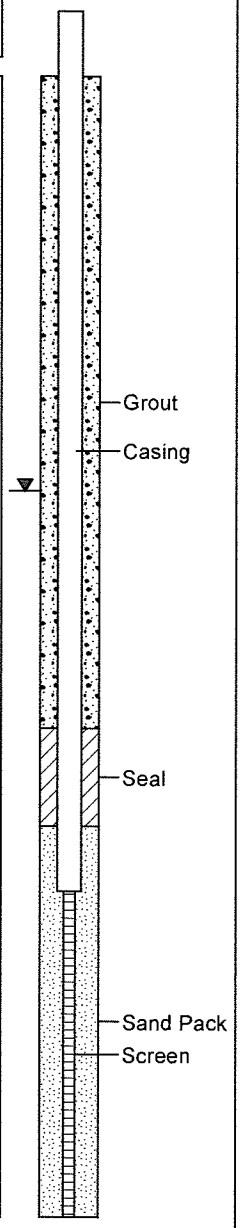
(SHEET 1 OF 1)

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Aiport	SIZE AND TYPE OF BIT: 8 1/4" OD HSA
LOCATION: Hillsboro, TX	DATUM FOR ELEVATION SHOWN:
DRILLING AGENCY: Best Drilling Services	MANUFACTURERS DESIGNATION OR DRILL: CME Truck Mounted Rotary Drill
HOLE NUMBER: MW-5	TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 2 UNDISTURBED: 1
NAME OF DRILLER: Sonny Tabalta	TOTAL NUMBER OF CORE BOXES: 0
DIRECTION OF HOLE: Vertical	ELEVATION GROUND WATER: 13.72 feet bgs
THICKNESS OF OVERBURDEN: 35 feet bgs	DATE HOLE: STARTED: 9/28/10 1645 FINISHED: 9/28/10 1730
DEPTH DRILED INTO ROCK: n/a	ELEVATION TOP OF HOLE:
TOTAL DEPTH OF HOLE: 35 feet bgs	TOTAL CORE RECOVERY: 0
	SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	SM		SANDY SILT, medium stiff, moist, plastic, very dark greyish brown, 10YR 3/2	24/24	MW-05-0001	0		
			SILTY CLAY, traces of gravel, stiff, moist, plastic, Yellow 10YR 7/8	18/24	Geo-04-0204	0		
5	CL			12/12	MW-05-0405	0		
						0		
				48/60		0		
10						0		
			SILTY CLAY, stiff, moist, plastic, brownish yellow, 10YR 6/6			0	▼	
				60/60		0		
15						0		
	CL					0		
				60/60		0		
20						0		
				60/60		0		
						0		
25			SILTY CLAY, stiff, plastic, moist, brownish yellow, 10YR 6/6 with light greenish grey mottles, Gley 7/10Y	60/60		0		Wet soil lens encountered at 27 feet bgs.
	CL					0		
30						0		
				60/60		0		
			SHALE layer, dry, nonplastic, hard, black to dark grey.			0		Bottom of hole at 35 feet bgs.
35								

Well: MW-5
Elev.:



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Stell Environmental Enterprises, Inc
25 East Main Street
Elverson, PA
Project # 03226

HOLE NUMBER: MW-5

(SHEET 1 OF 1)

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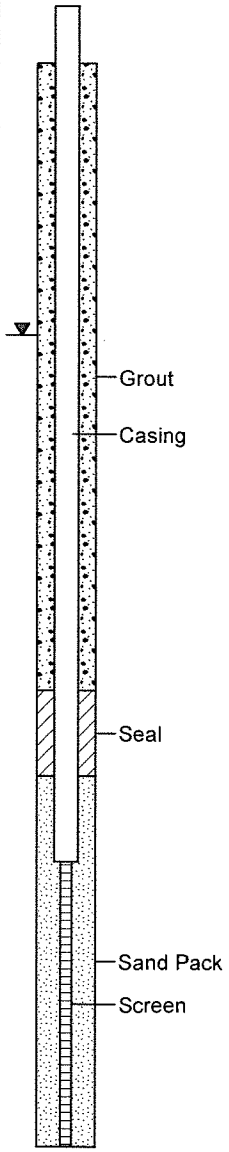
DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Aiport	SIZE AND TYPE OF BIT: 8 1/4" OD HSA
LOCATION: Hillsboro, TX	DATUM FOR ELEVATION SHOWN:
DRILLING AGENCY: Best Drilling Services	MANUFACTURERS DESIGNATION OR DRILL: CME Truck Mounted Rotary Drill
HOLE NUMBER: MW-6	TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 2 UNDISTURBED: 1
NAME OF DRILLER: Sonny Tabalta	TOTAL NUMBER OF CORE BOXES: 0
DIRECTION OF HOLE: Vertical	ELEVATION GROUND WATER: 9.54 feet bgs
THICKNESS OF OVERBURDEN: 38 feet bgs	DATE HOLE: STARTED: 9/28/10 1315 FINISHED: 9/28/10 1515
DEPTH DRILED INTO ROCK: n/a	ELEVATION TOP OF HOLE:
TOTAL DEPTH OF HOLE: 38 feet bgs	TOTAL CORE RECOVERY: 0
	SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	CL		SILTY CLAY, plastic, moist, medium stiff, black, 10YR 2/1	24/24	MW-06-0001	0		MW-06-0001-EB collected before drilling began.
	CL		SILTY CLAY, traces of gravel, plastic, moist, stiff, dark greyish brown, 10YR 4/2	14/24	Geo-02-0204	0		
5			SILTY CLAY, plastic, stiff, moist, yellowish brown, 10YR 5/6	12/12	MW-06-0405	0		MW-06-0405-MS and MW-06-0405-MSD collected with MW-06-0405.
						0		
				60/60		0	▼	
10						0		
	CL			60/60		0		
15						0		
						0		
				60/60		0		
20						0		
				60/60		0		
25	CL		SILTY CLAY, medium stiff, plastic, moist, yellow, 10YR 7/6 with mottles of very pale brown, 10YR 8/2			0		
				60/60		0		
30						0		Wet soil lens first encountered at 30 feet bgs.
				60/60		0		
35			SHALE, very stiff silt, laminate layers, dry, dark grey 2.5Y 4/1			0		Bottom of hole at 38 feet bgs.
40								

Well: MW-6
Elev.:



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Stell Environmental Enterprises, Inc
25 East Main Street
Elverson, PA
Project # 03226

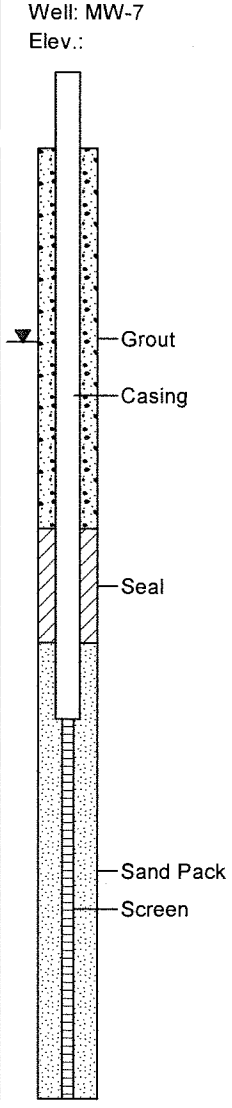
HOLE NUMBER: MW-6

(SHEET 1 OF 1)

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 of 1

PROJECT: Hillsboro Municipal Aiport	SIZE AND TYPE OF BIT: 8 1/4" OD HSA
LOCATION: Hillsboro, TX	DATUM FOR ELEVATION SHOWN:
DRILLING AGENCY: Best Drilling Services	MANUFACTURERS DESIGNATION OR DRILL: CME Truck Mounted Rotary Drill
HOLE NUMBER: MW-7	TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: 3 UNDISTURBED: 1
NAME OF DRILLER: Sonny Tabalta	TOTAL NUMBER OF CORE BOXES: 0
DIRECTION OF HOLE: Vertical	ELEVATION GROUND WATER: 4.19 feet bgs
THICKNESS OF OVERBURDEN: 25 feet bgs	DATE HOLE: STARTED: 9/28/10 1050 FINISHED: 9/28/10 1130
DEPTH DRILED INTO ROCK: n/a	ELEVATION TOP OF HOLE:
TOTAL DEPTH OF HOLE: 25 feet bgs	TOTAL CORE RECOVERY: 0
	SIGNATURE OF INSPECTOR:

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Recovery (in.)	Box or Sampling No.	PID	Water Level	REMARKS
0	CL		SILTY CLAY, traces of gravel, semiplastic, medium stiff, moist, dark greyish brown, 10YR 4/2	24/24	MW-07-0001	0		
				16/24	Geo-03-0204	0		
5	CL		SILTY CLAY, plastic, medium stiff, moist, brownish yellow, 10YR 6/8	12/12	MW-07-0405	0		MW-QC-01-092810 collected at 1105
				60/60		0		
10	CL		As above but very pale brown 10YR 3/4			0		
				60/60		0		
15						0		Wet soil lens encountered at 15 feet bgs.
				60/60		0		
20			SHALE, very stiff silt, very fine grained, laminate layers, dry, dark grey, 2.5Y 4/1			0		
				60/60		0		
25						0		Bottom of hole at 25 feet bgs.
30								



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Stell Environmental Enterprises, Inc
25 East Main Street
Elverson, PA
Project # 03226

HOLE NUMBER: MW-7

(SHEET 1 OF 1)

APPENDIX C

MONITORING WELL INSTALLATION LOGS
AND
WELL DEVELOPMENT RECORDS

WELL CONSTRUCTION DIAGRAM

Project #: 03226	Project Name: Willows Airport	Boring Well #: MW-04
Geologist: Tim Swavely	Driller/Company: Best Drilling Services	
Drilling Equip.: Truck Mounted Rotary CME Rig	Date Start: 9/27/10	Date Completed: 9/27/10
Surface Elev.: 662.16	Top of Casing Elev.: 664.96	Total Depth: 30 ft bgs	Well Depth: 30 ft. bgs

Depth (bgs)

Note: Use top of casing (TOC) for all depth measurements.

A. Protective casing, top elevation _____ ft. MSL

B. Well casing, top elevation 664.96 ft. MSL

C. Land surface elevation 662.16 ft. MSL

D. Surface seal, bottom 5 ft. TOC or _____ ft. MSL

E. Secondary filter, top NA ft. TOC or _____ ft. MSL

F. Bentonite seal, top 17 ft. TOC or _____ ft. MSL

G. Secondary filter, top NA ft. TOC or _____ ft. MSL

H. Primary filter, top 20 ft. TOC or _____ ft. MSL

I. Screen joint, top 23 ft. TOC or _____ ft. MSL

J. Well bottom 33 ft. TOC or _____ ft. MSL

K. Filter pack, bottom 33 ft. TOC or _____ ft. MSL

L. Borehole, bottom 33 ft. TOC or _____ ft. MSL

M. Borehole, diameter 8.25 in.

N. O.D. well casing 2.25 in.

O. I.D. well casing 2.0 in.

P. 24 hr. water level after completion 12.25 in. TOC or _____ in. MSL

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☒ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐Yes ☒No

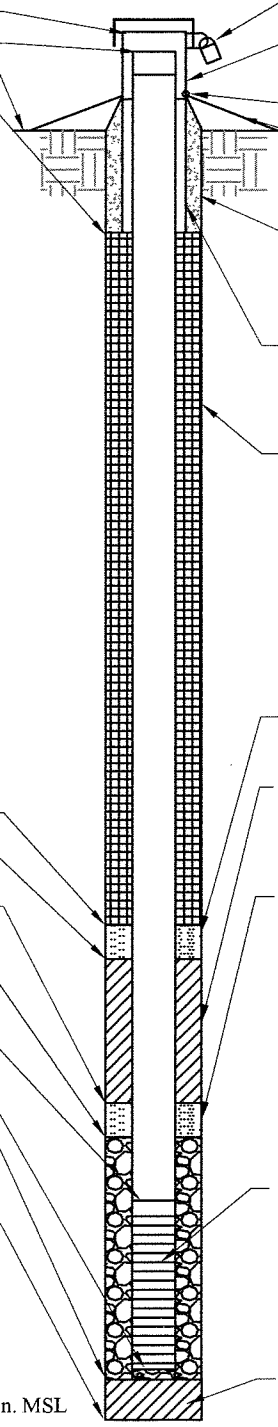
18. Drilling method used: Rotary ☐
Hollw Stem Auger ☒
_____ Other ☐

19. Drilling fluid used: Water ☐ Air ☐
Drilling Mud ☐ None ☒

20. Drilling additives used? ☐Yes ☒No
Describe _____

21. Source of water (attach analysis):
_____

1. Cap and lock? ☒Yes ☐No
2. Protective posts? ☐Yes ☒No
3. Protective casing:
a. Inside diameter: 3.75 in.
a. Length: 5.0 ft.
4. Drainage port(s): ☐Yes ☒No
5. Surface seal: Gravel blanket ☐
a. Cap Bentonite ☐
Concrete ☒
_____ Other ☐
b. Annular space seal: Bentonite ☐
_____ Cement ☒
_____ Other ☐
6. Material between well casing and protective casing: Bentonite ☐
Cement ☒
_____ Other ☐
7. Annular space seal: a. Granular Bentonite ☐
b. ____ Lbs/gal mud weight.. Bentonite-sand slurry ☐
c. ____ Lbs/gal mud weight.... Bentonite-slurry ☐
d. ____ x Bentonite..... Bentonite-cement grout ☒
e. 1.17 yd.³ volume added for any of the above
f. How installed: Tremie ☒
Tremie pumped ☐
Gravity ☐
8. Centralizers ☐Yes ☒No
9. Secondary Filter ☐Yes ☒No
a. Volume added _____ yd.³ _____ Bags/Size
10. Bentonite seal: a. Bentonite pellets ☒
b. ☐ ¼ in. ☒ ⅜ in. ☐ ½ in. Bentonite pellets ☒
c. _____ Other ☐
11. Secondary Filter ☐Yes ☒No
a. Volume added _____ yd.³ _____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size:
a. Unimin Silica Sand, 20/40
b. Volume added 0.175 yd.³ 7 50lb. Bags/Size
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
_____ Other ☐
14. Screen material: PVC SCH 40
a. Screen type: Factory cut ☒
Continuous slot ☐
_____ Other ☐
b. Manufacturer Gulf Coast Manufacturing
c. Slot size: 0.010 in.
d. Slotted length: 10.0 in.
15. Backfill material (below filter pack): None ☒
_____ Other ☐



WELL DEVELOPMENT RECORD

WELL DESIGNATION: MW-04 DATE(S) OF INSTALLATION: 9/27/10

SITE GEOLOGIST: Tim Swavely DATE(S) OF DEVELOPMENT: 9/29/10

STATIC WATER LEVELS: (FROM TOP OF CASING)
BEFORE DEVELOPMENT 12.40 DATE 9/29/10
24 HRS. AFTER DEVEL. _____ DATE _____

DEPTH TO SEDIMENT: (FROM TOP OF CASING)
BEFORE DEVELOPMENT 33.0 DATE 9/29/10
24 HRS. AFTER DEVEL. _____ DATE _____

DEPTH TO WELL BOTTOM: (FROM TOP OF CASING) 33.0

QUANTITY OF MUD/WATER (gallons):

LOST DURING DRILLING _____

REMOVED PRIOR TO WELL INSERTION _____

LOST d/THICK FLUID DISPLACEMENT _____

ADDED d/FILTER PACK REPLACEMENT _____

(a) water column (ft.) 20.60 (b) well diameter (in.) 2.0

(c) screen length (ft.) 10.0 (d) borehole diameter (in.) 8.25

(e) annulus space/length (ft) 33.0

QUANTITY OF FLUID STANDING IN WELL 3.3372 gallons

QUANTITY OF FLUID IN ANNULUS 15.038 gallons

TOTAL QTY. (5 equivalent volumes) 55.1256

TOTAL QTY. (5 times losses) _____

TOTAL DEVEL. VOLUME REQ'D 55.1256 gallons

TYPE AND SIZE OF PUMP: Trash Pump

TYPE AND SIZE OF BAILER: _____

DESCRIPTION OF SURGE TECHNIQUE, IF ANY: _____

TYPICAL PUMPING RATE 1gal/min GAL/HR EST. RECHARGE RATE _____

TOTAL QUANTITY OF WATER REMOVED 55 gal TIME REQUIRED 2 hour

SIGNATURE OF SITE GEOLOGIST Tim Swavely

Project: Hillsboro Airport

Well: MW-04

Geologist: Tim Snavely

Date	Time	Pump On/Off	Flow Rate (gal/min)	Quantity Removed (gallons)	Depth to Water (ft TOC)	pH	Cond (µS/cm)	DO (mg/L)	Temp (°C)	Turbidity (NTU)	Redox Potential (Eh) (mV)	Appearance	Comments
9/29	900	On	1	8	29.0	8.68	1.94	1.60	19.62	800	-127	Muddy	
9/29	915	On	1	12	26.5	8.20	2.50	9.74	23.11	800	-143		
9/29	930	On	1	17	30.0	7.89	2.57	6.56	27.08	800	-163		
9/29	945	On	1	22	24.6	8.47	3.28	9.16	19.81	150	-148		
9/29	1000	On	1	25	26.0	8.25	4.30	8.75	22.01	250	-170		
9/29	1015	On	1	30	28.0	8.00	3.50	6.50	23.56	400	-175		
9/29	1030	On	1	37	28.5	8.12	3.63	9.10	24.10	425	-173		
9/29	1045	On	1	42	29.0	8.14	3.25	5.10	24.15	415	-173		
9/29	1100	On	1	50	29.3	8.14	3.20	4.75	24.15	459	-173		
9/29	1115	On	1	55	29.3	8.15	3.20	3.00	24.15	450	-174		

WELL CONSTRUCTION DIAGRAM

Project #: 03226	Project Name: Hillsboro Airport	Boring Well #: MW-05
Geologist: Tim Snavely	Driller/Company: Best Drilling Services	
Drilling Equip.: Truck Mounted Rotary CME Rig	Date Start: 9/28/10	Date Completed: 9/28/10
Surface Elev.: 659.23	Top of Casing Elev.: 662.09	Total Depth: 35 ft bgs	Well Depth: 35 ft bgs

Depth (bgs)

Note: Use top of casing (TOC) for all depth measurements.

A. Protective casing, top elevation _____ ft. MSL

B. Well casing, top elevation 662.09 ft. MSL

C. Land surface elevation 659.23 ft. MSL

D. Surface seal, bottom 5 ft. TOC or _____ ft. MSL

E. Secondary filter, top NA ft. TOC or _____ ft. MSL

F. Bentonite seal, top 23 ft. TOC or _____ ft. MSL

G. Secondary filter, top NA ft. TOC or _____ ft. MSL

H. Primary filter, top 26 ft. TOC or _____ ft. MSL

I. Screen joint, top 28 ft. TOC or _____ ft. MSL

J. Well bottom 38 ft. TOC or _____ ft. MSL

K. Filter pack, bottom 38 ft. TOC or _____ ft. MSL

L. Borehole, bottom 38 ft. TOC or _____ ft. MSL

M. Borehole, diameter 8.25 in.

N. O.D. well casing 2.25 in.

O. I.D. well casing 2.0 in.

P. 24 hr. water level after completion 33.0 in. TOC or _____ in. MSL

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☒ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐Yes ☒No

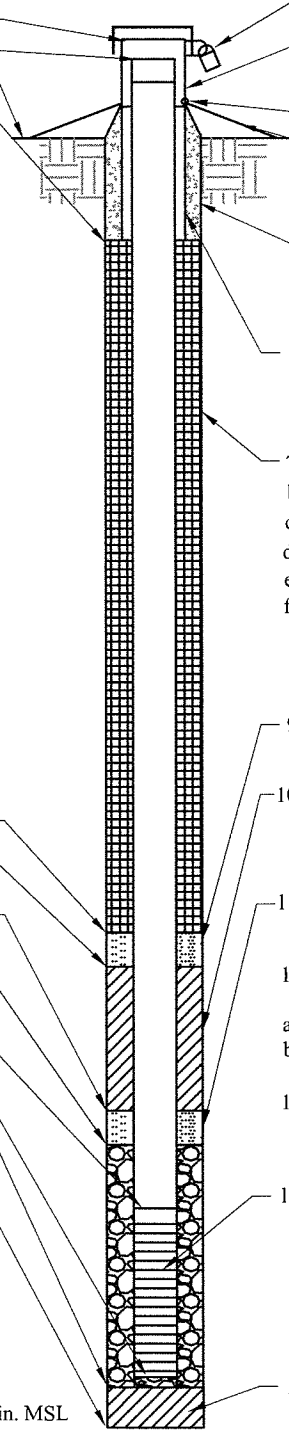
18. Drilling method used: Rotary ☐
Hollw Stem Auger ☒
_____ Other ☐

19. Drilling fluid used: Water ☐ Air ☐
Drilling Mud ☐ None ☒

20. Drilling additives used? ☐Yes ☒No
Describe _____

21. Source of water (attach analysis):
_____

1. Cap and lock? ☒Yes ☐No
2. Protective posts? ☐Yes ☒No
3. Protective casing:
a. Inside diameter: 3.75 in.
a. Length: 9.0 ft.
4. Drainage port(s): ☐Yes ☒No
5. Surface seal: Gravel blanket ☐
a. Cap Bentonite ☐
Concrete ☒
_____ Other ☐
b. Annular space seal: Bentonite ☐
_____ Cement ☒
_____ Other ☐
6. Material between well casing and protective casing: Bentonite ☐
Cement ☒
_____ Other ☐
7. Annular space seal: a. Granular Bentonite ☐
b. ____ Lbs/gal mud weight.. Bentonite-sand slurry ☐
c. ____ Lbs/gal mud weight.... Bentonite-slurry ☐
d. ____ x Bentonite..... Bentonite-cement grout ☒
e. 2.46 yd.³ volume added for any of the above
f. How installed: Tremie ☒
Tremie pumped ☐
Gravity ☐
8. Centralizers ☐Yes ☒No
9. Secondary Filter ☐Yes ☒No
a. Volume added _____ yd.³ _____ Bags/Size
10. Bentonite seal: a. Bentonite pellets ☒
b. ☐ ¼ in. ☒ ⅜ in. ☐ ½ in. Bentonite pellets ☒
c. _____ Other ☐
11. Secondary Filter ☐Yes ☒No
a. Volume added _____ yd.³ _____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size:
a. Unimin Silica Sand, 20140
b. Volume added 0.175 yd.³ 7150 lbs Bags/Size
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
_____ Other ☐
14. Screen material: PVC SCH40
a. Screen type: Factory cut ☒
Continuous slot ☐
_____ Other ☐
b. Manufacturer Gulf Coast Manufacturing
c. Slot size: 0.010 in.
d. Slotted length: 1.0 in.
15. Backfill material (below filter pack): None ☒
_____ Other ☐



WELL DEVELOPMENT RECORD

WELL DESIGNATION: MW-05 DATE(S) OF INSTALLATION: 9/28/10

SITE GEOLOGIST: Tim Swavely DATE(S) OF DEVELOPMENT: 9/30/10

STATIC WATER LEVELS: (FROM TOP OF CASING)
BEFORE DEVELOPMENT 33.0 DATE 9/28/10
24 HRS. AFTER DEVEL. DATE

DEPTH TO SEDIMENT: (FROM TOP OF CASING)
BEFORE DEVELOPMENT 38.3 DATE 9/28/10
24 HRS. AFTER DEVEL. DATE

DEPTH TO WELL BOTTOM: (FROM TOP OF CASING) 39.0

QUANTITY OF MUD/WATER (gallons):

LOST DURING DRILLING

REMOVED PRIOR TO WELL INSERTION

LOST d/THICK FLUID DISPLACEMENT

ADDED d/FILTER PACK REPLACEMENT

(a) water column (ft.) 5.3 (b) well diameter (in.) 2.0

(c) screen length (ft.) 10 (d) borehole diameter (in.) 8.25

(e) annulus space/length (ft) 39.0

QUANTITY OF FLUID STANDING IN WELL 0.865 gallons

QUANTITY OF FLUID IN ANNULUS 7.87 gallons

TOTAL QTY. (5 equivalent volumes) 14.205

TOTAL QTY. (5 times losses)

TOTAL DEVEL. VOLUME REQ'D 14.205 gallons

TYPE AND SIZE OF PUMP: Trash Pump

TYPE AND SIZE OF BAILER:

DESCRIPTION OF SURGE TECHNIQUE, IF ANY:

TYPICAL PUMPING RATE 0.5 gal/min GAL/HR EST. RECHARGE RATE

TOTAL QUANTITY OF WATER REMOVED 15.0 TIME REQUIRED 2 hours

SIGNATURE OF SITE GEOLOGIST Tim Swavely

Project: Hillsboro Airport

Well: MW-05

Geologist: Tim Shively

Date	Time	Pump On/Off	Flow Rate (gal/min)	Quantity Removed (gallons)	Depth to Water (ft TOC)	pH	Cond (µS/cm)	DO (mg/L)	Temp (°C)	Turbidity (NTU)	Redox Potential (Eh) (mV)	Appearance	Comments
9/30	935	On	0.5	2	34.70	7.90	3.12	5.48	22.21	114	137	Clear	
9/30	1050	On	0.5	5	33.9	7.75	2.55	5.25	22.21	672	196	Muddy	
9/30	1100	On	0.5	7	34.50	7.70	2.65	4.14	22.22	505	201	↓	
9/30	1110	On	0.5	9	34.70	7.71	2.70	3.21	22.21	263	198	↓	
9/30	1120	On	0.5	11	35.00	7.70	2.72	1.17	22.21	117	197	Clear	
9/30	1125	On	0.5	13	35.21	7.70	2.71	1.15	22.21	115	199	↓	
9/30	1130	On	0.5	15	35.50	7.71	2.71	1.10	22.21	90	199	↓	

WELL CONSTRUCTION DIAGRAM

Page ____ of ____

Project #: 03226	Project Name: Hillsboro Airport	Boring Well #: MW-06
Geologist: Tim Swavely	Driller/Company: Best Drilling Services	
Drilling Equip.: Truck Mounted Rotary CME Rig	Date Start: 9/28/10	Date Completed: 9/28/10
Surface Elev.: 659.92	Top of Casing Elev.: 662.74	Total Depth: 38 ft bgs	Well Depth: 38 ft. bgs

Depth (bgs)

Note: Use top of casing (TOC) for all depth measurements.

A. Protective casing, top elevation _____ ft. MSL

B. Well casing, top elevation 662.74 ft. MSL

C. Land surface elevation 659.92 ft. MSL

D. Surface seal, bottom 5 ft.TOC or _____ ft. MSL

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☒ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐Yes ☒No

18. Drilling method used: Rotary ☐
Hollw Stem Auger ☒
_____ Other ☐

19. Drilling fluid used: Water ☐ Air ☐
Drilling Mud ☐ None ☒

20. Drilling additives used? ☐Yes ☒No
Describe _____

21. Source of water (attach analysis):
_____

E. Secondary filter, top NA ft. TOC or _____ ft. MSL

F. Bentonite seal, top 26 ft. TOC or _____ ft. MSL

G. Secondary filter, top NA ft. TOC or _____ ft. MSL

H. Primary filter, top 29 ft. TOC or _____ ft. MSL

I. Screen joint, top 31 ft. TOC or _____ ft. MSL

J. Well bottom 41 ft. TOC or _____ ft. MSL

K. Filter pack, bottom 41 ft. TOC or _____ ft. MSL

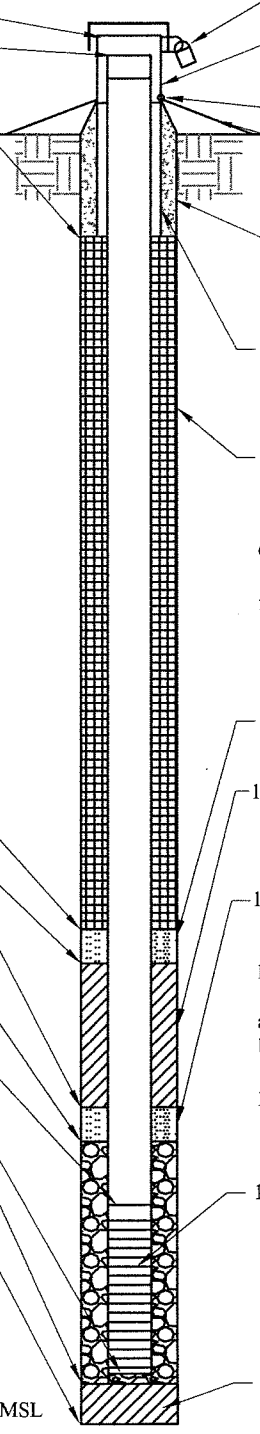
L. Borehole, bottom 41 ft. TOC or _____ ft. MSL

M. Borehole, diameter 8.25 in.

N. O.D. well casing 2.25 in.

O. I.D. well casing 2.0 in.

P. 24 hr. water level after completion 29.95 in.TOC or _____ in. MSL



1. Cap and lock? ☒Yes ☐No
2. Protective posts? ☐Yes ☒No
3. Protective casing:
a. Inside diameter: 3.75 in.
a. Length: 5.0 ft.
4. Drainage port(s): ☐Yes ☒No
5. Surface seal: Gravel blanket ☐
a. Cap Bentonite ☐
Concrete ☒
_____ Other ☐
b. Annular space seal: Bentonite ☐
_____ Cement ☒
_____ Other ☐
6. Material between well casing and protective casing: Bentonite ☐
Cement ☒
_____ Other ☐
7. Annular space seal: a. Granular Bentonite ☐
b. ____ Lbs/gal mud weight.. Bentonite-sand slurry ☐
c. ____ Lbs/gal mud weight.... Bentonite-slurry ☐
d. ____x Bentonite..... Bentonite-cement grout ☒
e. .117 yd.³ volume added for any of the above
f. How installed: Tremie ☒
Tremie pumped ☐
Gravity ☐
8. Centralizers ☐Yes ☒No
9. Secondary Filter ☐Yes ☒No
a. Volume added _____ yd.³ _____ Bags/Size
10. Bentonite seal: a. Bentonite pellets ☒
b. ☐ ¼ in. ☒ ⅜ in. ☐ ½ in. Bentonite pellets ☒
c. _____ Other ☐
11. Secondary Filter ☐Yes ☒No
a. Volume added _____ yd.³ _____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size:
a. Unimin, Silica Sand, 20/40
b. Volume added 0.196 yd.³ 8150lb. Bags/Size
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
_____ Other ☐
14. Screen material: PVC SCH40
a. Screen type: Factory cut ☒
Continuous slot ☐
_____ Other ☐
b. Manufacturer Gulf Coast Manufacturing
c. Slot size: 0.010 in.
d. Slotted length: 1.0 in.
15. Backfill material (below filter pack): None ☒
_____ Other ☐

WELL DEVELOPMENT RECORD

WELL DESIGNATION: MW-06 DATE(S) OF INSTALLATION: 9/28/10

SITE GEOLOGIST: Tim Smavely DATE(S) OF DEVELOPMENT: 9/30/10

STATIC WATER LEVELS: (FROM TOP OF CASING)
- BEFORE DEVELOPMENT: 29.95 DATE: 9/30/10
- 24 HRS. AFTER DEVEL.: _____ DATE: _____

DEPTH TO SEDIMENT: (FROM TOP OF CASING)
- BEFORE DEVELOPMENT: 38.40 DATE: 9/30/10
- 24 HRS. AFTER DEVEL.: _____ DATE: _____

DEPTH TO WELL BOTTOM: (FROM TOP OF CASING): 41.00

QUANTITY OF MUD/WATER (gallons):
- LOST DURING DRILLING: _____
- REMOVED PRIOR TO WELL INSERTION: _____
- LOST d/THICK FLUID DISPLACEMENT: _____
- ADDED d/FILTER PACK REPLACEMENT: _____

(a) water column (ft.): 8.45 (b) well diameter (in.): 2.0

(c) screen length (ft.): 10.0 (d) borehole diameter (in.): 8.25

(e) annulus space/length (ft): 39.00

QUANTITY OF FLUID STANDING IN WELL: 1.379 gallons

QUANTITY OF FLUID IN ANNULUS: 6.168 gallons

TOTAL QTY. (5 equivalent volumes): 22.70

TOTAL QTY. (5 times losses): _____

TOTAL DEVEL. VOLUME REQ'D: 22.70 gallons

TYPE AND SIZE OF PUMP: Trash Pump

TYPE AND SIZE OF BAILER: _____

DESCRIPTION OF SURGE TECHNIQUE, IF ANY: _____

TYPICAL PUMPING RATE: 1 gal/min GAL/HR EST. RECHARGE RATE: _____

TOTAL QUANTITY OF WATER REMOVED: 24.0 gal TIME REQUIRED: 2 days

SIGNATURE OF SITE GEOLOGIST: Tim Smavely

Project: Hillsboro Airport

Well: MW-06

Geologist: Tim Swavely

Date	Time	Pump On/Off	Flow Rate (gal/min)	Quantity Removed (gallons)	Depth to Water (ft TOC)	pH	Cond (µS/cm)	DO (mg/L)	Temp (°C)	Turbidity (NTU)	Redox Potential (Eh) (mV)	Appearance	Comments
9/30	900	On	1	4	34.60	7.72	3.10	7.96	21.68	89.50	130	Clear	
9/30	1035	On	1	6	33.80	7.69	3.29	7.95	21.59	65.40	119		
9/30	1130	On	1	10	33.75	7.70	3.25	7.80	21.62	60.30	120		
9/30	1240	On	1	12	34.00	7.71	3.24	5.50	21.70	54.10	125		
9/30	1400	On	1	14	33.50	7.75	3.30	4.45	21.68	50.25	125		
10/1	800	On	1	20	31.45	7.74	3.31	6.70	22.00	20.15	120		
10/1	830	On	1	24	33.76	7.73	3.30	5.50	22.05	25.50	120		

WELL CONSTRUCTION DIAGRAM

Project #: 03226	Project Name: Hillsboro Airport	Boring Well #: MW-07
Geologist: Tim Swavely	Driller/Company: Best Drilling Company	
Drilling Equip.: Truck Mounted Rotary CME Rig	Date Start: 9/28/10	Date Completed: 9/28/10
Surface Elev.: 628.14	Top of Casing Elev.: 630.89	Total Depth: 24 ft bgs / Well Depth: 24 ft bgs

Depth (bgs)

Note: Use top of casing (TOC) for all depth measurements.

A. Protective casing, top elevation _____ ft. MSL

B. Well casing, top elevation 630.89 ft. MSL

C. Land surface elevation 628.14 ft. MSL

0 D. Surface seal, bottom 5 ft. TOC or _____ ft. MSL

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☒ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐Yes ☒No

18. Drilling method used: Rotary ☐
Hollw Stem Auger ☒
_____ Other ☐

19. Drilling fluid used: Water ☐ Air ☐
Drilling Mud ☐ None ☒

20. Drilling additives used? ☐Yes ☒No
Describe _____

21. Source of water (attach analysis):
_____

E. Secondary filter, top NA ft. TOC or _____ ft. MSL

F. Bentonite seal, top 12 ft. TOC or _____ ft. MSL

G. Secondary filter, top NA ft. TOC or _____ ft. MSL

H. Primary filter, top 15 ft. TOC or _____ ft. MSL

I. Screen joint, top 17 ft. TOC or _____ ft. MSL

J. Well bottom 27 ft. TOC or _____ ft. MSL

K. Filter pack, bottom 27 ft. TOC or _____ ft. MSL

L. Borehole, bottom 27 ft. TOC or _____ ft. MSL

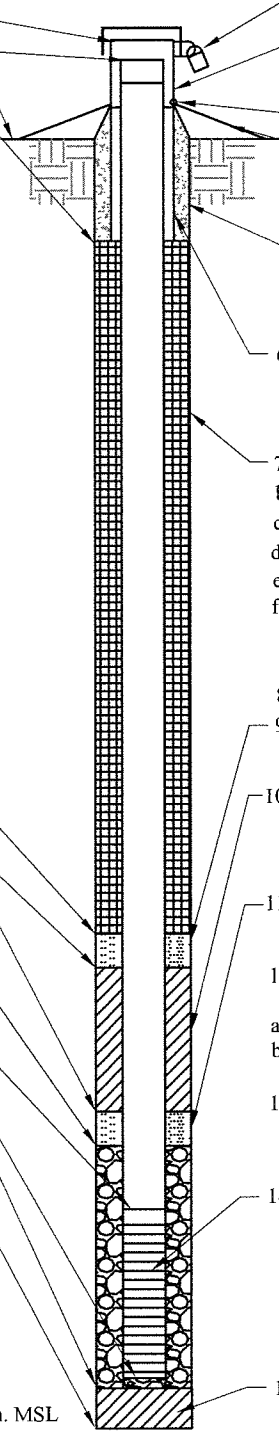
M. Borehole, diameter 8.25 in.

N. O.D. well casing 2.25 in.

O. I.D. well casing 2.0 in.

24 P. 24 hr. water level after completion 15.0 in.TOC or _____ in. MSL

1. Cap and lock? ☒Yes ☐No
2. Protective posts? ☒Yes ☐No
3. Protective casing:
a. Inside diameter: 3.75 in.
a. Length: 5.0 ft.
4. Drainage port(s): ☐Yes ☒No
5. Surface seal: Gravel blanket ☐
a. Cap Bentonite ☐
Concrete ☒
_____ Other ☐
b. Annular space seal: Bentonite ☐
_____ Cement ☒
_____ Other ☐
6. Material between well casing and protective casing: Bentonite ☐
Cement ☒
_____ Other ☐
7. Annular space seal: a. Granular Bentonite ☐
b. ____ Lbs/gal mud weight.. Bentonite-sand slurry ☐
c. ____ Lbs/gal mud weight.... Bentonite-slurry ☐
d. ____x Bentonite..... Bentonite-cement grout ☒
e. 1.11 yd.³ volume added for any of the above
f. How installed: Tremie ☒
Tremie pumped ☐
Gravity ☐
8. Centralizers ☐Yes ☒No
9. Secondary Filter ☐Yes ☒No
a. Volume added _____ yd.³ _____ Bags/Size
10. Bentonite seal: a. Bentonite pellets ☐
b. ☐ ¼ in. ☒ ⅜ in. ☐ ½ in. Bentonite pellets ☒
c. _____ Other ☐
11. Secondary Filter ☐Yes ☒No
a. Volume added _____ yd.³ _____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size:
a. Unimin, Silica Sand, 20/40
b. Volume added 0.175 yd.³ 7.5 bags Bags/Size
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
_____ Other ☐
14. Screen material: PVC SCH40
a. Screen type: Factory cut ☒
Continuous slot ☐
_____ Other ☐
b. Manufacturer Gulf Coast Manufacturing
c. Slot size: 0.010 in.
d. Slotted length: 1.0 in.
15. Backfill material (below filter pack): None ☒
_____ Other ☐



WELL DEVELOPMENT RECORD

WELL DESIGNATION: MW-07 DATE(S) OF INSTALLATION: 9/28/10

SITE GEOLOGIST: _____ DATE(S) OF DEVELOPMENT: 9/30/10

STATIC WATER LEVELS: (FROM TOP OF CASING)	BEFORE DEVELOPMENT	6.30	DATE	9/30/10
	24 HRS. AFTER DEVEL.		DATE	
DEPTH TO SEDIMENT: (FROM TOP OF CASING)	BEFORE DEVELOPMENT	27.50	DATE	9/30/10
	24 HRS. AFTER DEVEL.		DATE	
DEPTH TO WELL BOTTOM: (FROM TOP OF CASING)	28.0			

QUANTITY OF MUD/WATER (gallons):

LOST DURING DRILLING	N/A
REMOVED PRIOR TO WELL INSERTION	N/A
LOST d/THICK FLUID DISPLACEMENT	N/A
ADDED d/FILTER PACK REPLACEMENT	N/A

(a) water column (ft.)	21.20	(b) well diameter (in.)	2.0
(c) screen length (ft.)	10.0	(d) borehole diameter (in.)	8.25
(e) annulus space/length (ft)	27.50		

QUANTITY OF FLUID STANDING IN WELL	3.46		gallons
QUANTITY OF FLUID IN ANNULUS	15.476		gallons
TOTAL QTY. (5 equivalent volumes)	56.8	TOTAL DEVEL. VOLUME REQ'D	
TOTAL QTY. (5 times losses)			56.8 gallons

TYPE AND SIZE OF PUMP: Trash Pump

TYPE AND SIZE OF BAILER: _____

DESCRIPTION OF SURGE TECHNIQUE, IF ANY: _____

TYPICAL PUMPING RATE 1.0 gal/min GAL/HR EST. RECHARGE RATE _____

TOTAL QUANTITY OF WATER REMOVED 60.0 gal TIME REQUIRED 3 hours

SIGNATURE OF SITE GEOLOGIST: Tim Ley

Project: Hillsboro Municipal Airport

Well: MW-07

Geologist: Tim Smavely

Date	Time	Pump On/Off	Flow Rate (gal/min)	Quantity Removed (gallons)	Depth to Water (ft TOC)	pH	Cond (µS/cm)	DO (mg/L)	Temp (°C)	Turbidity (NTU)	Redox Potential (Eh) (mV)	Appearance	Comments
9/30	825	On	1	3	15	7.89	.840	7.76	21.76	800	136	Grey/Muddy	
9/30	837	On	1	10	21.30	7.76	.801	1.48	22.49	800	134	↓	Stop let well recharge
9/30	1000	On	1	17	12	7.90	.827	7.79	22.40	697	167	↓	
9/30	1030	On	1	30	6.43	8.03	.836	6.75	21.07	182	117	Clean	
9/30	1100	On	1	45	23.90	8.03	.812	6.68	21.93	150	117	↓	Stop and let well recharge
9/30	1115	On	1	55	20.70	8.07	.806	7.87	21.87	677	144	Muddy	
9/30	1130	On	1	60	21.50	8.05	.800	7.80	21.90	600	140	↓	

APPENDIX D

LOW FLOW SAMPLING AND DATA SHEETS

Stell Environmental Enterprises, Inc.

LOW FLOW SAMPLING DATA SHEETS

Sheet 1 **of** 1

Site: Date:	**10/21/2010**	**Client /Site: Field**	**USACE Hillsboro Municipal Airport**
Weather:	**Clear and Sunny High of 85°F**	**Personnel: Job***	**Tim Swavely and Greg Kochanowicz**

Monitoring Well #:	**MW-06**	**Well Depth: Well**	**37.95 ft**	**Screened/Open Interval:**	**10 ft**
Well Permit #:	**NA**	**Diameter:**	**2 inches**		

PID'FID Readings ppm): **0** **Pump Intake Depth:** **35** **ft below TOC**

Background: Beneath Outer Cap: Beneath **0** **Depth to Water Before Pump Installation:** **12.31** **ft below TOC**

Inner Cap: **0**

TIME	at c ff 3 Q.	Sampling	pH (pH units)		Temperature <°C)		Specific Conductivity (us/cm)		Dissolved Oxygen <mg/M		Redox Potential (mV)		Turbidity (NTU)		Pumping Rate (ml/min)	Depth to Water (ft below TOC)
			Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
905			6.86		21.13		3.580		8.1		-55		25.50		400	14.3
910			6.77	0.09	21.28	-0.15	3.580	0.000	1.67	6.43	-73	18.00	19.10	6.40	400	15.35
915			6.76	0.01	21.63	-0.35	3.570	0.010	1.33	0.34	-74	1.00	18.20	0.90	400	15.93
920			6.76	0.00	21.96	-0.33	3.570	0.000	1.23	0.10	-74	0.00	16.40	1.80	400	16.47
925			6.76	0.00	22.17	-0.21	3.560	0.010	1.15	0.08	-74	0.00	15.40	1.00	400	16.98
930			6.76	0.00	22.34	-0.17	3.590	-0.030	1.12	0.03	-74	0.00	15.00	0.40	400	17.22

comments: Collected MW-06 at 940.

•INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: + 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mV for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Stell Environmental Enterprises, Inc.

LOW FLOW SAMPLING DATA SHEETS

Sheet 1 **of** 1

Site: Date:	**10/21/2010**	**Client /Site: Field**	**USACE Hillsboro Municipal Airport**
Weather:	**Clear and Sunny High of 85°F**	**Personnel: Job***	**Tim Swavely and Greg Kochanowicz**

Monitoring Well #:	**MW-05**	**Well Depth: Well**	**38.06 ft**	**Screened/Open Interval:**	**10 ft**
Well Permit #:	**NA**	**Diameter:**	**2 inches**		

PID'FID Readings ppm): **0** **Pump Intake Depth:** **35** **ft below TOC**

Background: Beneath Outer Cap: Beneath **0** **Depth to Water Before Pump Installation:** **16.58** **ft below TOC**

Inner Cap: **0**

TIME	at c ff 3 Q.	Sampling	pH (pH units)		Temperature <°C)		Specific Conductivity (us/cm)		Dissolved Oxygen <mg/M		Redox Potential (mV)		Turbidity (NTU)		Pumping Rate (ml/min)	Depth to Water (ft below TOC)
			Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
1215			6.91		25.43		3.53		2.23		-129		12.70		400	17.31
1220			6.90	0.01	26.00	-0.57	3.54	-0.01	1.93	0.30	-123	-6.00	14.80	-2.10	400	17.4
1225			6.84	0.06	26.24	-0.24	3.56	-0.02	1.94	-0.01	-132	9.00	13.70	1.10	400	17.95
1230			6.82	0.02	26.28	-0.04	3.60	-0.04	1.96	-0.02	-127	-5.00	12.20	1.50	400	18.01
1235			6.82	0.00	25.83	0.45	3.58	0.02	1.96	0.00	-132	5.00	12.00	0.20	400	18.5
1240			6.82	0.00	26.40	-0.57	3.60	-0.02	1.95	0.01	-134	2.00	11.50	0.50	400	18.75

comments: Collected MW-05 at 1250. Bottles broke during shipment resampled on 11/1/10. Three well volumes purged before sampling

•INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: + 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mV for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Stell Environmental Enterprises, Inc.

LOW FLOW SAMPLING DATA SHEETS

Sheet 1 **of** 1

Site: Date:	10/20/2010	**Client /Site: Field**	USACE Hillsboro Municipal Airport
Weather:	Clear and Sunny High of 80ºF	**Personnel: Job***	Tim Swavely and Greg Kochanowicz

Monitoring Well #:	MW-04	**Well Depth: Well**	33.08 ft	**Screened/Open Interval:**	10 ft
Well Permit #:	NA	**Diameter:**	2 inches		

PID'FID Readings ppm):	0	**Pump Intake Depth:**	30	ft below TOC
Background: Beneath Outer Cap: Beneath	0	**Depth to Water Before Pump Installation:**	13.12	ft below TOC
Inner Cap:	0			

TIME	at c ff 3 Q.	Sampling	pH (pH units)		Temperature <°C)		Specific Conductivity (us/cm)		Dissolved Oxygen <mg/M		Redox Potential (mV)		Turbidity (NTU)		Pumping Rate (ml/min)	Depth to Water (ft below TOC)
			Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
1415			6.75		24.10		3.180		0.28		-159		723.00		450	17.1
1420			6.73	0.02	24.62	-0.52	3.160	0.020	0.13	0.15	-168	9.00	796.00	-73.00	450	18.5
1425			6.71	0.02	24.80	-0.18	3.160	0.000	0.00	0.13	-178	10.00	696.00	100.00	450	19.45
1430			6.72	-0.01	24.93	-0.13	3.180	-0.020	0.00	0.00	-177	-1.00	406.00	290.00	450	19.95
1435			6.77	-0.05	24.85	0.08	3.160	0.020	0.03	-0.03	-175	-2.00	459.00	-53.00	450	21.2
1440			6.76	0.01	24.83	0.02	3.160	0.000	0.00	0.03	-174	-1.00	465.00	-6.00	450	21.75
1445			6.75	0.01	24.80	0.03	3.170	-0.010	0.00	0.00	-175	1.00	440.00	25.00	450	22
1450			6.75	0.00	24.80	0.00	3.160	0.010	0.00	0.00	-176	1.00	445.00	-5.00	450	22.35

comments: Water is cloudy with a sulfer smell. Collected MW-04, MW-04-MS and MW-04-MSD at 1450.

•INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: + 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mV for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Stell Environmental Enterprises, Inc.

LOW FLOW SAMPLING DATA SHEETS

Sheet 1 **of** 1

Site: Date:	10/20/2010	**Client /Site: Field**	USACE Hillsboro Municipal Airport
Weather:	Clear and Sunny High of 80ºF	**Personnel: Job***	Tim Swavely and Greg Kochanowicz

Monitoring Well #:	MW-03	**Well Depth: Well**	26 ft	**Screened/Open Interval:**	unknown ft
Well Permit #:	NA	**Diameter:**	2 inches		

PID'FID Readings ppm): 0 **Pump Intake Depth:** 22 ft below TOC

Background: Beneath Outer Cap: Beneath 0 **Depth to Water Before Pump Installation:** 10.99 ft below TOC

Inner Cap: 0

TIME	at c ff 3 Q.	Sampling	pH (pH units)		Temperature <°C)		Specific Conductivity (us/cm)		Dissolved Oxygen <mg/M		Redox Potential (mV)		Turbidity (NTU)		Pumping Rate (ml/min)	Depth to Water (ft below TOC)
			Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
1255			7.10		24.72		0.580		0.56		50		146.00		470	12.15
1300			7.03	0.07	25.19	-0.47	0.500	0.080	0.14	0.42	-163	213.00	60.00	86.00	470	12.35
1305			6.98	0.05	25.06	0.13	0.473	0.027	0.03	0.11	-190	27.00	18.20	41.80	470	12.72
1310			6.95	0.03	25.77	-0.71	0.473	0.000	0.06	-0.03	-174	-16.00	13.10	5.10	470	12.72
1315			6.92	0.03	25.90	-0.13	0.474	-0.001	0.04	0.02	-167	-7.00	5.60	7.50	470	12.65
1320			6.93	-0.01	25.95	-0.05	0.474	0.000	0.07	-0.03	-130	-37.00	10.40	-4.80	470	12.78
1325			6.89	0.04	25.85	0.10	0.460	0.014	0.00	0.07	-138	8.00	2.00	8.40	470	12.92
1330			6.87	0.02	25.85	0.00	0.467	-0.007	0.00	0.00	-136	-2.00	2.70	-0.70	470	13.00
1335			6.88	-0.01	25.85	0.00	0.470	-0.003	0.00	0.00	-139	3.00	1.90	0.80	470	13.10

comments: Collect MW-03 at 1345.

•INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: + 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mV for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Stell Environmental Enterprises, Inc.

LOW FLOW SAMPLING DATA SHEETS

Sheet 1 **of** 1

Site: Date:	10/20/2010	**Client /Site: Field**	USACE Hillsboro Municipal Airport
Weather:	Clear and Sunny High of 80ºF	**Personnel: Job***	Tim Swavely and Greg Kochanowicz

Monitoring Well #:	MW-02	**Well Depth: Well**	22.9 ft	**Screened/Open Interval:**	unknown ft
Well Permit #:	NA	**Diameter:**	2 inches		

PID'FID Readings ppm): 0 **Pump Intake Depth:** 20 ft below TOC

Background: Beneath Outer Cap: Beneath 0 **Depth to Water Before Pump Installation:** 10.8 ft below TOC

Inner Cap: 0

TIME	at c ff 3 Q.	Sampling	pH (pH units)		Temperature <°C)		Specific Conductivity (us/cm)		Dissolved Oxygen <mg/M		Redox Potential (mV)		Turbidity (NTU)		Pumping Rate (ml/min)	Depth to Water (ft below TOC)
			Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
1030			6.99		23.49		0.62		0.43		149		33.00		450	11.70
1035			6.92	0.07	23.43	0.06	0.59	0.03	0.41	0.02	138	11.00	17.90	15.10	450	12.50
1040			6.89	0.03	24.29	-0.86	0.55	0.04	0.40	0.01	131	7.00	11.60	6.30	450	12.70
1045			6.88	0.01	24.36	-0.07	0.58	-0.03	0.11	0.29	124	7.00	3.20	8.40	450	12.90
1050			6.90	-0.02	24.73	-0.37	0.59	-0.01	0.15	-0.04	126	-2.00	2.00	1.20	450	12.70
1055			6.87	0.03	24.56	0.17	0.61	-0.02	0.55	-0.40	125	1.00	0.30	1.70	450	12.76
1100			6.88	-0.01	24.59	-0.03	0.63	-0.02	0.58	-0.03	126	-1.00	0.00	0.30	450	12.80
1105			6.85	0.03	24.54	0.05	0.64	-0.01	0.54	0.04	125	1.00	0.00	0.00	450	12.90

comments: Collect MW-02 at 1110.

•INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: + 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mV for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Stell Environmental Enterprises, Inc.

LOW FLOW SAMPLING DATA SHEETS

Sheet 1 **of** 1

Site: Date:	10/20/2010	**Client /Site: Field**	USACE Hillsboro Municipal Airport
Weather:	Clear and Sunny High of 80ºF	**Personnel: Job***	Tim Swavely and Greg Kochanowicz
Monitoring Well #:	MW-01	**Well Depth: Well**	29.5 ft
Well Permit #:	NA	**Diameter:**	2 inches
Screened/Open Interval:	unknown ft		
PID'FID Readings ppm):	0	**Pump Intake Depth:**	24 ft below TOC
Background: Beneath Outer Cap: Beneath	0	**Depth to Water Before Pump Installation:**	5.77 ft below TOC
Inner Cap:	0		

TIME	at c ff 3 Q.	Sampling	pH (pH units)		Temperature <°C)		Specific Conductivity (us/cm)		Dissolved Oxygen <mg/M		Redox Potential (mV)		Turbidity (NTU)		Pumping Rate (ml/min)	Depth to Water (ft below TOC)
			Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
845			7.22		21.71		1.43		9.11		157		129.00		400	6.52
850			6.76	0.46	22.82	-1.11	1.27	0.16	0.66	8.45	168	-11.00	11.50	117.50	400	7.49
855			6.74	0.02	22.83	-0.01	1.27	0.00	0.43	0.23	169	-1.00	10.10	1.40	400	7.50
900			6.72	0.02	22.11	0.72	1.18	0.09	0.37	0.06	161	8.00	10.60	-0.50	400	8.55
905			6.71	0.01	22.48	-0.37	1.18	0.00	0.36	0.01	159	2.00	10.00	0.60	400	8.57
910			6.72	-0.01	22.45	0.03	1.19	-0.01	0.36	0.00	158	1.00	9.00	1.00	400	8.56
915			6.73	-0.01	22.47	-0.02	1.17	0.02	0.38	-0.02	158	0.00	9.80	-0.80	400	8.56

comments: Collect MW-01 at 920.

•INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: + 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mV for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Stell Environmental Enterprises, Inc.

LOW FLOW SAMPLING DATA SHEETS

Sheet 1 **of** 1

Site: Date:	10/21/2010	**Client /Site: Field**	USACE Hillsboro Municipal Airport
Weather:	Clear and Sunny High of 85°F	**Personnel: Job***	Tim Swavely and Greg Kochanowicz

Monitoring Well #:	MW-07	**Well Depth: Well**	27.62 ft	**Screened/Open Interval:**	10 ft
Well Permit #:	NA	**Diameter:**	2 inches		

PID'FID Readings ppm):	0	**Pump Intake Depth:**	24	ft below TOC
Background: Beneath Outer Cap: Beneath	0	**Depth to Water Before Pump Installation:**	6.99	ft below TOC
Inner Cap:	0			

TIME	at c ff 3 Q.	Sampling	pH (pH units)		Temperature <°C)		Specific Conductivity (us/cm)		Dissolved Oxygen <mg/M		Redox Potential (mV)		Turbidity (NTU)		Pumping Rate (ml/min)	Depth to Water (ft below TOC)
			Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
1025			7.21		23.64		0.887		2.33		85		361.00		400	7.2
1030			7.15	0.06	23.92	-0.28	0.878	0.009	1.84	0.49	86	-1.00	536.00	-175.00	400	8.25
1035			7.11	0.04	23.66	0.26	0.853	0.025	1.35	0.49	88	-2.00	MAX	-	400	8.57
1040			7.10	0.01	23.60	0.06	0.843	0.010	1.03	0.32	89	-1.00	MAX	-	400	8.75
1045			7.08	0.02	23.60	0.00	0.841	0.002	0.78	0.25	90	-1.00	MAX	-	400	9.05
1050			7.07	0.01	23.68	-0.08	0.833	0.008	0.85	-0.07	86	4.00	768.00	-	400	9.05
1055			7.06	0.01	23.20	0.48	0.824	0.009	0.56	0.29	87	-1.00	499	269.00	400	9.18
1100			7.02	0.04	23.30	-0.10	0.807	0.017	0.34	0.22	86	1.00	148	351.00	400	10.13
1105			7.00	0.02	23.27	0.03	0.813	-0.006	0.26	0.08	84	2.00	79.8	68.20	400	10.97
1110			6.99	0.01	23.54	-0.27	0.813	0.000	0.24	0.02	83	1.00	75.3	4.50	400	10.92
1115			6.99	0.00	23.73	-0.19	0.815	-0.002	0.25	-0.01	83	0.00	74.9	0.40	400	10.84

comments: Collected MW-07 and QC-01-102110 at 1120.

•INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: + 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mV for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

APPENDIX E

ANALYTICAL LAB REPORTS
(enclosed on CD)

APPENDIX F

SOIL AND GROUNDWATER DATA VALIDATION REPORTS

Stell Environmental Enterprises, Inc.
...The Difference!

Federal 8(a)
PennDOT DBE
PA DGS WBE

DATA VALIDATION REPORT
PHASE II ENVIRONMENTAL SITE ASSESSMENT
HILLSBORO AIRPORT
HILLSBORO, TEXAS
TEST AMERICA JOB NUMBER: 280-7908-1

This validation report presents the findings of a quality assurance review of the analytical data generated for soil samples collected at the former Hillsboro Airport. The samples were collected 27 and 28 September 2010 and submitted to TestAmerica Laboratories, Inc. (TA) of Denver, Colorado. The samples included in the referenced TA job number are summarized in the Sample Summary (Table 1).

The sample specific analysis performed included chlorinated pesticides and RCRA metals. The analyses were performed in accordance with the protocols presented in *Test Methods for Evaluating Solid Waste, USEPA SW-846, Third Edition, November 1986 and its updates.* Specific method references are as follows:

Analysis	*Method References*
Pesticides	USEPA SW-846 Method 8081B
Metals	USEPA SW-846 Methods 6010C, 7471B, and 7470A

Data Validation Summary

The findings offered in this report are based on a reduced review of the data for all of the sample analyses and a comprehensive review for the samples identified in Table 1. The data have been validated and qualified according to the protocols and quality control (QC) requirements of the analytical methods, general guidance provided in the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, EPA 540-R-08-01, June 2008* and the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, USEPA-540-R-10-011, January 2010*, and the reviewer's professional judgment.

The reduced review was based on an evaluation of the following items, reported according to the CLP-equivalent deliverables format: chain of custody documentation; sample preservation; holding times; laboratory method blanks; equipment blanks; instrument calibration blanks; single component pesticide dual column precision; and field duplicate sample precision. The comprehensive review included an evaluation of initial and continuing calibration data, low-level check standards, Inductively Coupled Plasma (ICP) interference check sample results, laboratory control sample (LCS) results, matrix spike/matrix spike duplicate (MS/MSD) recoveries and reproducibility, surrogate recoveries, post-digestion spike recoveries, serial dilution results, and the quantitation of sample results.

Blind field duplicate precision was evaluated by comparison of the analytical results for the duplicate samples and calculation of the relative percent difference (RPD) for the analytical results. The field duplicate precision RPD criterion for all analyses was 40%. A QC limit equal to 3X the Limit of Quantitation (LOQ) was used for field duplicate results at concentrations less than 5X the LOQ.

Data validation qualifiers, consistent with the referenced validation guidance, were added to the electronic data deliverable (EDD) provided with the laboratory data report. The "U" qualifier was applied to all results for which the compound/analyte was analyzed for but not detected above the LOQ. The "J" qualifier was applied to all positive results below the LOQ and to all positive results or "non-detect" LOQs that were quantitatively estimated because of QC criteria exceedances.

Data Validation Results

General Comments

All of the referenced samples were received by the laboratory in acceptable condition. Minor discrepancies between the chain of custody and the sample bottles were resolved with the sampling team via email communication.

All pesticide and metals samples were prepared and analyzed within the method required holding time. Qualification on the basis of blank contamination was not required. Acceptable performance was observed for all initial calibrations, continuing calibration verifications, low-level check standards, and interference check standards, but a low response obtained for a multi–component pesticide in the initial calibration verification standard resulted in qualification for this pesticide. Results for all LCSs and serial dilution analyses were within QC limits. Certain pesticide results were qualified for low surrogate recoveries and dual column precision, while results for metals were qualified on the basis of MS/MSD data. Diluted analyses of both pesticides and metals yielded elevated "non-detect" LOQs.

Qualifications

All positive results reported at concentrations below the LOQ were qualified "J" to indicate that they are quantitative estimates.

The initial calibration verification standard for the multi-component pesticide toxaphene was biased low and outside of the QC limits. These response deviations are an indication of instrument instability with the associated sample analyses, and the "non-detect" LOQ for toxaphene in full review sample MW-07-0001 has been qualified "UJ" to indicate that it is a quantitative estimate that may be biased low. This low biased LOQ should be noted when assessing the "non-detect" result for toxaphene in the referenced sample.

The positive results for the pesticides summarized in the following table exhibited dual column RPDs that were greater than the QC limit of 25%. These high RPDs are an indication of matrix interferences with the higher of the two dual column results and/or instrument instability. All of these results that

were greater than the LOQ were qualified "J" to indicate that they are quantitative estimates. Final results were reported from the analytical column exhibiting the best performance, as selected by the analyst. The possibility of interferences should be noted when assessing these pesticide results and project objectives.

Pesticides Exhibiting Poor Dual Column Precision	Associated Samples
Endosulfan I, Endosulfan II, and Endrin ketone	MW-01-0001
beta-BHC, Dieldrin, and Heptachlor	MW-01-0405
4,4'-DDT and Endosulfan II	SS-26-00.5 and SS-22-00.5
4,4'-DDT, Endosulfan II, and Endrin ketone	SS-30-00.5 and SS-21-00.5
Endosulfan II and Endrin ketone	SS-29-00.5
4,4'-DDE	MW-06-0001
4,4'-DDE and 4,4'-DDT	SS-25-00.5
Dieldrin, Endosulfan I, Endosulfan II, and Endrin ketone	SS-17-00.5
4,4'-DDT, Dieldrin, and Endrin ketone	SS-16-00.5
Endosulfan II	SS-18-00.5
4,4'-DDT and Endrin ketone	SS-QC-01-092710
Dieldrin, Endosulfan II, and Endrin ketone	SS-28-00.5
4,4'-DDT	SS-23-00.5 and SS-24-00.5
4,4'-DDT, Dieldrin, and Endosulfan II	SS-19-00.5
Dieldrin	SS-20-00.5

The MS/MSD analyses for metals yielded recoveries for arsenic, barium, lead, and selenium that were below the lower QC limits. These low recoveries are an indication of a low bias with the measurement of these analytes in the associated samples, and the positive results or "non-detect" LOQs for these analytes in full review samples SS-27-00.5 and MW-07-0001 were qualified "J" or "UJ", respectively, in the EDD to indicate that they are quantitative estimates that may be biased low. The possibility of elevated LOQs should be noted when assessing any "non-detect" LOQs for the referenced sample results.

The MS/MSD analyses for metals yielded a recovery for chromium that was above the upper QC limit. This high recovery is an indication of a high bias with the measurement of chromium in the associated samples, and the positive results for this analyte in full review samples SS-27-00.5 and MW-07-0001 were qualified "J" in the EDD to indicate that they are quantitative estimates that may be biased high.

Low surrogate recoveries were obtained with the pesticide analysis of full review sample SS-27-00.5. These low recoveries are an indication of a low bias with the associated analysis, and the positive results or "non-detect" LOQs for pesticides in sample SS-27-00.5 have been qualified "J" or "UJ", respectively, to indicate that they are estimated and possibly biased low. The possibility of elevated LOQs should be noted when assessing the "non-detect" results for pesticides in sample SS-27-00.5.

Comments

Samples SS-27-00.5 and MW-07-001 and their blind field duplicates, SS-QC-01-092710 and MW-QC-01-092810, respectively, were submitted to the laboratory to evaluate sampling and analytical precision for the project. Qualification was not required for these field duplicate pairs.

The samples presented in the following table were reanalyzed for pesticides with an additional dilution. These dilutions were required because the concentrations of pesticides detected in the initial analysis exceeded the linear calibration range of the instrument. Positive results for the pesticides in the samples identified in the table are reported from the diluted reanalysis. All other results and LOQs for pesticides in these samples are reported from the initial analysis.

Sample Reanalyzed with Dilutions	Pesticides Exceeding the Calibration Range	Dilution Factor
MW-01-0001	4,4'-DDT	2X
SS-30-00.5, SS-QC-01-092710, and SS-22-00.5	4,4'-DDT	10X
SS-27-00.5	Endosulfan II and 4,4'-DDT	10X
MW-01-0405	4,4'-DDD, 4,4'-DDE, 4,4'-DDT, Dieldrin, and Toxaphene	50X
SS-17-00.5	4,4'-DDE, 4,4'-DDT, and Endosulfan II	50X
SS-28-00.5 and SS-19-00.5	4,4'-DDE	20X
SS-18-00.5	4,4'-DDE, 4,4'-DDT, Endosulfan II, Endrin ketone, and Toxaphene	1000X
SS-20-00.5	4,4'-DDE and 4,4'-DDT	1000X

Elevated "non-detect" LOQs were reported for the sample results summarized in the following table. These results were reported from diluted analyses which were performed due to elevated levels of non-target compounds and/or matrix interferences. These elevated "non-detect" LOQs should be noted when assessing the referenced sample results and project objectives.

Analytes with Elevated "Non-detect" LOQs	Associated Samples
4,4'-DDD and Methoxychlor	SS-30-00.5, SS-QC-01-092710, SS-22-00.5, and SS-27-00.5
4,4'-DDD, 4,4'-DDT, and Methoxychlor	SS-29-00.5
4,4'-DDD, Aldrin, alpha-BHC, alpha-Chlordane, beta-BHC, Dieldrin, Endosulfan I, Endosulfan sulfate, Endrin, Endrin aldehyde, gamma-BHC (Lindane), gamma-Chlordane, Heptachlor, Heptachlor epoxide, and Methoxychlor	SS-18-00.5
4,4'-DDD, Aldrin, alpha-BHC, beta-BHC, delta-BHC, Endosulfan I, Endosulfan sulfate, Endrin, Endrin aldehyde, gamma-BHC (Lindane), alpha-Chlordane, gamma-Chlordane, Heptachlor, Heptachlor epoxide, and Methoxychlor	SS-19-00.5
Aldrin, alpha-BHC, alpha-Chlordane, beta-BHC, delta-BHC, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin aldehyde, gamma-BHC (Lindane), gamma-Chlordane, Heptachlor, Heptachlor epoxide, and Methoxychlor	SS-20-00.5
Selenium	SS-27-00.5 and SS-30-00.5

Conclusion

This report presents the findings of the validation of the specified data, which is associated with the analysis of samples collected at the Hillsboro Airport and reported in the referenced TA job number. The data validation included a review of the data deliverables described in the Data Validation Summary portion of this report. The following data validation qualifiers were applied as appropriate:

U – The compound/analyte was analyzed for but not detected above the LOQ.

UJ – The compound/analyte was not detected and the reported LOQ should be considered a biased low quantitative estimate.

J – The reported value was quantitatively estimated because of a QC exceedance or because the concentration was below the LOQ.

In summary, the laboratory analyses were performed acceptably for the referenced sample results, and are valid and useable with qualifications as presented in this validation report.

13 December 2010

Joseph M. Loeper, Ph.D.
Senior Quality Assurance Chemist

Dated

Tables: Table 1 – Sample Summary

Table 1
Sample Summary
Hillsboro Airport
Hillsboro, Texas
TAL Job Number: 280-7908-1

Matrix	Sample ID	Lab ID	Collection Date	Analysis
Soil	MW-01-0001	280-7908-1	9/27/2010	Pesticides and Metals
Soil	MW-01-0405	280-7908-2	9/27/2010	Pesticides and Metals
Soil	SS-26-00.5	280-7908-3	9/27/2010	Pesticides and Metals
Soil	SS-30-00.5	280-7908-4	9/27/2010	Pesticides and Metals
Soil	SS-29-00.5	280-7908-5	9/27/2010	Pesticides and Metals
Soil	SS-25-00.5	280-7908-6	9/27/2010	Pesticides and Metals
DI Water	SS-16-00.5-EB	280-7908-8	9/27/2010	Pesticides and Metals
Soil	SS-17-00.5	280-7908-9	9/27/2010	Pesticides and Metals
Soil	SS-16-00.5	280-7908-10	9/27/2010	Pesticides and Metals
Soil	SS-27-00.5*	280-7908-11	9/27/2010	Pesticides and Metals
Soil	SS-QC-01-092710[1]	280-7908-12	9/27/2010	Pesticides and Metals
Soil	SS-28-00.5	280-7908-13	9/27/2010	Pesticides and Metals
Soil	SS-21-00.5	280-7908-14	9/27/2010	Pesticides and Metals
Soil	SS-18-00.5	280-7908-15	9/27/2010	Pesticides and Metals
Soil	SS-22-00.5	280-7908-16	9/27/2010	Pesticides and Metals
Soil	SS-23-00.5	280-7908-17	9/27/2010	Pesticides and Metals
Soil	SS-24-00.5	280-7908-18	9/27/2010	Pesticides and Metals
Soil	SS-19-00.5	280-7908-19	9/27/2010	Pesticides and Metals
Soil	SS-20-00.5	280-7908-20	9/27/2010	Pesticides and Metals
Soil	MW-06-0001	280-7908-21	9/28/2010	Pesticides and Metals
Soil	MW-06-0405	280-7908-22	9/28/2010	Pesticides and Metals
Soil	MW-07-0001*	280-7908-23	9/28/2010	Pesticides and Metals
Soil	MW-07-0405	280-7908-24	9/28/2010	Pesticides and Metals
Soil	MW-05-0001	280-7908-25	9/28/2010	Pesticides and Metals
Soil	MW-05-0405	280-7908-26	9/28/2010	Pesticides and Metals
Soil	SB-12-00.5	280-7908-27	9/28/2010	Pesticides and Metals
Soil	SB-12-0405	280-7908-28	9/28/2010	Pesticides and Metals
Soil	MW-QC-01-092810[2]	280-7908-29	9/28/2010	Pesticides and Metals
DI Water	MW-06-0001-EB	280-7908-32	9/28/2010	Pesticides and Metals

Notes:

* - This sample received a comprehensive review. All other samples were assessed for holding time compliance, blank contamination, and field duplicate precision.

1 - This sample is a blind field duplicate of sample SS-27-00.5.

2 - This sample is a blind field duplicate of sample MW-07-0001.

Equipment Blank samples are identified with an "EB" suffix.

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DATA VALIDATION REPORT
PHASE II ENVIRONMENTAL SITE ASSESSMENT
HILLSBORO AIRPORT
HILLSBORO, TEXAS
TEST AMERICA JOB NUMBER: 280-7928-1

This validation report presents the findings of a quality assurance review of the analytical data generated for soil samples collected at the former Hillsboro Airport. The samples were collected on 29 September 2010 and submitted to Test America Laboratories, Inc. (TA) of Denver, Colorado. The samples included in the referenced TA job number are summarized in the Sample Summary (Table 1).

The sample specific analysis performed included chlorinated pesticides and RCRA metals. The analyses were performed in accordance with the protocols presented in *Test Methods for Evaluating Solid Waste, USEPA SW-846, Third Edition, November 1986 and its updates.* Specific method references are as follows:

Analysis	*Method References*
Pesticides	USEPA SW-846 Method 8081B
Metals	USEPA SW-846 Methods 6010C, 7471B, and 7470A

Data Validation Summary

The findings offered in this report are based on a reduced review of the data for all of the sample analyses and a comprehensive review for the samples identified in Table 1. The data have been validated and qualified according to the protocols and quality control (QC) requirements of the analytical methods, general guidance provided in the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, EPA 540-R-08-01, June 2008* and the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, USEPA-540-R-10-011, January 2010*, and the reviewer's professional judgment.

The reduced review was based on an evaluation of the following items, reported according to the CLP-equivalent deliverables format: chain of custody documentation; sample preservation; holding times; laboratory method blanks; equipment blanks; instrument calibration blanks; single component pesticide dual column precision; and field duplicate sample precision. The comprehensive review included an evaluation of initial and continuing calibration data, low-level check standards, Inductively Coupled Plasma (ICP) interference check sample results, laboratory control sample (LCS) results, matrix spike/matrix spike duplicate (MS/MSD) recoveries and reproducibility, surrogate recoveries, post-digestion spike recoveries, serial dilution results, and the quantitation of sample results.

Blind field duplicate precision was evaluated by comparison of the analytical results for the duplicate samples and calculation of the relative percent difference (RPD) for the analytical results. The field duplicate precision RPD criterion for all analyses was 40%. A QC limit equal to 3X the Limit of Quantitation (LOQ) was used for field duplicate results at concentrations less than 5X the LOQ.

Data validation qualifiers, consistent with the referenced validation guidance, were added to the electronic data deliverable (EDD) provided with the laboratory data report. The "U" qualifier was applied to all results for which the compound/analyte was analyzed for but not detected above the LOQ or when a positive result has been negated due to blank contamination. The "J" qualifier was applied to all positive results below the LOQ and to all positive results or "non-detect" LOQs that were quantitatively estimated because of QC criteria exceedances.

Data Validation Results

General Comments

All of the referenced samples were received by the laboratory in acceptable condition. Minor discrepancies between the chain of custody and the sample bottles were resolved with the sampling team via email communication.

All pesticide and metals samples were prepared and analyzed within the method required holding time. Positive results for one analyte were negated due to blank contamination. Acceptable performance was observed for all initial calibrations, continuing calibration verifications, low-level check standards, and interference check standards, but a low response obtained for a multi–component pesticide in the initial calibration verification standard resulted in qualification for this pesticide. Recoveries for all surrogate compounds and LCSs were within QC limits. Certain pesticide results were qualified for dual column precision, while results for metals were qualified on the basis of MS/MSD data and serial dilution results. Diluted analyses of certain pesticides yielded elevated "non-detect" LOQs.

Qualifications

All positive results reported at concentrations below the LOQ were qualified "J" to indicate that they are quantitative estimates.

The positive results reported for silver in samples SB-08-0405 and SB-10-0405 are considered qualitatively invalid since similar levels of this analyte were detected in associated blanks. These sample results, which were less than the LOQ, were negated and qualified "U" and reported as less than the LOQ in the EDD.

The initial calibration verification standard for the multi-component pesticide toxaphene was biased low and outside of the QC limits. These response deviations are an indication of instrument instability with the associated sample analyses, and the "non-detect" LOQs for toxaphene in full review samples SB-04-0405 and SB-07-0405 have been qualified "UJ" to indicate that they are quantitative estimates that may be biased low. These low biased LOQs should be noted when assessing the "non-detect" results for toxaphene in the referenced samples.

The positive results for the pesticides summarized in the following table exhibited dual column RPDs that were greater than the QC limit of 25%. These high RPDs are an indication of matrix interferences with the higher of the two dual column results and/or instrument instability. All of these results that were greater than the LOQ were qualified "J" to indicate that they are quantitative estimates. Final results were reported from the analytical column exhibiting the best performance, as selected by the

analyst. The possibility of interferences should be noted when assessing these pesticide results and project objectives.

Pesticides Exhibiting Poor Dual Column Precision	Associated Samples
Endosulfan I	SB-01-0405
4,4'-DDE	SB-02-0405, SB-07-0405, SB-13-00.5, and SB-10-0405
Dieldrin and 4,4'-DDT	SB-03-0405
4,4'-DDT	SB-03-00.5
alpha-BHC, beta-BHC, delta-BHC, gamma-BHC (Lindane), and Heptachlor	SB-04-00.5
4,4'-DDD, Dieldrin, Endosulfan II, and Endrin ketone	SB-04-0405
4,4'-DDE, alpha-BHC, Endrin, Endrin ketone, and Heptachlor	SB-05-00.5
4,4'-DDE, delta-BHC, Dieldrin, Endosulfan II, Endrin ketone, and gamma-BHC (Lindane)	SB-05-0405
Endosulfan II	SB-07-00.5 and SB-11-00.5
4,4'-DDT, Dieldrin, and Endrin ketone	SB-06-00.5
4,4'-DDE and Dieldrin	SB-06-0405
4,4'-DDD, Dieldrin, and Methoxychlor	SB-QC-01-092710
4,4'-DDE, Dieldrin, and Endosulfan II	SB-QC-02-092910
Endosulfan II and Endrin ketone	SB-09-00.5
4,4'-DDT and Endosulfan II	SB-09-0405

The MS/MSD analyses for metals yielded recoveries for lead and selenium that were below the lower QC limits. These low recoveries are an indication of a low bias with the measurement of these analytes in the associated samples, and the positive results or "non-detect" LOQs for lead in all of the full review samples and selenium in full review samples SB-04-0405 and SB-09-0405 have been qualified "J" or "UJ", respectively, in the EDD to indicate that they are quantitative estimates that may be biased low. The possibility of elevated LOQs should be noted when assessing any "non-detect" LOQs for the referenced sample results.

The % difference for chromium with the serial dilution analysis was outside of the QC limits. These serial dilution results are an indication of an interference with the analysis for this analyte, and the positive results for chromium in full review samples SB-04-0405, SB-07-0405, and SB-09-0405 have been qualified "J" in the EDD to indicate that they are quantitative estimates.

Comments

Samples SB-04-0405, SB-07-0405, and SB-09-0405 and their blind field duplicates, SB-QC-01-092710, SB-QC-02-092910, and SB-QC-03-092910, respectively, were submitted to the laboratory to evaluate sampling and analytical precision for the project. The "non-detect" LOQ for endosulfan II in duplicate sample SB-QC-01-092710 was qualified "UJ", as this compound was detected at a concentration above the LOQ in the parent sample but was "non-detect" in the field duplicate. The endosulfan sulfate result in the parent sample was already qualified on the basis of dual column precision. Qualification was not required for any other results for the field duplicate pairs.

The laboratory reported positive results for endosulfan sulfate in samples SB-06-00.5 and SB-10-0405. These results were revised to "non-detect", less than the LOQ, in the EDD since there were no positive results reported for this compound with the confirmatory analyses.

The samples presented in the following table were reanalyzed for pesticides with an additional dilution. These dilutions were required because the concentrations of pesticides detected in the initial analysis exceeded the linear calibration range of the instrument. Positive results for the pesticides in the samples identified in the table are reported from the diluted reanalysis. All other results and LOQs for pesticides in these samples are reported from the initial analysis.

Sample Reanalyzed with Dilutions	Pesticides Exceeding the Calibration Range	Dilution Factor
SB-03-0405 and SB-03-00.5	4,4'-DDE and 4,4'-DDT	5X
SB-04-0405	4,4'-DDT	20X
SB-04-00.5	4,4'-DDE, Dieldrin, and Toxaphene	500X
SB-QC-01-092710	4,4'-DDT	5X
SB-05-00.5	4,4'-DDE, 4,4'-DDT, Dieldrin, Endosulfan II, Endosulfan sulfate, Endrin, Endrin ketone, and Toxaphene	100X
SS-05-0405	4,4'-DDE, 4,4'-DDT, Dieldrin, Endosulfan II, Endosulfan sulfate, Endrin ketone, and Toxaphene	1000X

Elevated "non-detect" LOQs were reported for the sample results summarized in the following table. These results were reported from diluted analyses, which were performed due to elevated levels of non-target compounds and/or matrix interferences. These elevated "non-detect" LOQs should be noted when assessing the referenced sample results and project objectives.

Analytes with Elevated "Non-detect" LOQs	Associated Samples
Endosulfan II	SB-04-00.5
4,4'-DDD, Endosulfan I, Endrin aldehyde, gamma-Chlordane, Methoxychlor, and Heptachlor epoxide	SB-05-00.5
4,4'-DDD, Aldrin, alpha-Chlordane, Endosulfan I, Endrin, Endrin aldehyde, gamma-Chlordane, Heptachlor epoxide, and Methoxychlor	SB-05-0405

A result was reported for antimony in the equipment blank sample. This result line for antimony was removed from the EDD since antimony was not a target analyte for the project.

Conclusion

This report presents the findings of the validation of the specified data, which is associated with the analysis of samples collected at the Hillsboro Airport and reported in the referenced TA job number. The data validation included a review of the data deliverables described in the Data Validation Summary portion of this report. The following data validation qualifiers were applied as appropriate:

U – The compound/analyte was analyzed for but not detected above the LOQ or the positive result has been negated due to blank contamination.

UJ – The compound/analyte was not detected and the reported LOQ should be considered a biased low quantitative estimate.

J – The reported value was quantitatively estimated because of a QC exceedance or because the concentration was below the LOQ.

In summary, the laboratory analyses were performed acceptably for the referenced sample results, and are valid and useable with qualifications as presented in this validation report.

10 December 2010

Joseph M. Loeper, Ph.D.
Senior Quality Assurance Chemist

Dated

Tables: Table 1 – Sample Summary

Table 1
Sample Summary
Hillsboro Airport
Hillsboro, Texas
TAL Job Number: 280-7928-1

Matrix	Sample ID	Lab ID	Collection Date	Analysis
Soil	SB-01-0001	280-7928-1	9/29/2010	Pesticides and Metals
Soil	SB-01-0405	280-7928-2	9/29/2010	Pesticides and Metals
Soil	SB-02-00.5	280-7928-3	9/29/2010	Pesticides and Metals
Soil	SB-02-0405	280-7928-4	9/29/2010	Pesticides and Metals
Soil	SB-03-00.5	280-7928-5	9/29/2010	Pesticides and Metals
Soil	SB-03-0405	280-7928-6	9/29/2010	Pesticides and Metals
Soil	SB-04-00.5	280-7928-7	9/29/2010	Pesticides and Metals
Soil	SB-04-0405*	280-7928-8	9/29/2010	Pesticides and Metals
Soil	SB-05-00.5	280-7928-9	9/29/2010	Pesticides and Metals
Soil	SB-05-0405	280-7928-10	9/29/2010	Pesticides and Metals
Soil	SB-07-00.5	280-7928-11	9/29/2010	Pesticides and Metals
Soil	SB-07-0405*	280-7928-12	9/29/2010	Pesticides and Metals
Soil	SB-06-00.5	280-7928-13	9/29/2010	Pesticides and Metals
Soil	SB-06-0405	280-7928-14	9/29/2010	Pesticides and Metals
Soil	SB-QC-01-092710[1]	280-7928-15	9/29/2010	Pesticides and Metals
Soil	SB-QC-02-092910[2]	280-7928-16	9/29/2010	Pesticides and Metals
DI Water	SB-01-00.5-EB	280-7928-17	9/29/2010	Pesticides and Metals
Soil	SB-08-00.5	280-7928-18	9/29/2010	Pesticides and Metals
Soil	SB-08-0405	280-7928-19	9/29/2010	Pesticides and Metals
Soil	SB-11-00.5	280-7928-20	9/29/2010	Pesticides and Metals
Soil	SB-11-0405	280-7928-21	9/29/2010	Pesticides and Metals
Soil	SB-13-00.5	280-7928-22	9/29/2010	Pesticides and Metals
Soil	SB-13-0405	280-7928-23	9/29/2010	Pesticides and Metals
Soil	SB-10-00.5	280-7928-24	9/29/2010	Pesticides and Metals
Soil	SB-10-0405	280-7928-25	9/29/2010	Pesticides and Metals
Soil	SB-09-00.5	280-7928-26	9/29/2010	Pesticides and Metals
Soil	SB-09-0405*	280-7928-27	9/29/2010	Pesticides and Metals
Soil	SB-QC-03-092910[3]	280-7928-28	9/29/2010	Pesticides and Metals

Notes:

* - This sample received a comprehensive review. All other samples were assessed for holding time compliance, blank contamination, and field duplicate precision.

1 - This sample is a blind field duplicate of sample SB-04-0405.

2 - This sample is a blind field duplicate of sample SB-07-0405.

3 - This sample is a blind field duplicate of sample SB-09-0405.

Equipment Blank samples are identified with an "EB" suffix.

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DATA VALIDATION REPORT
PHASE II ENVIRONMENTAL SITE ASSESSMENT
HILLSBORO AIRPORT
HILLSBORO, TEXAS
TEST AMERICA JOB NUMBERS: 280-8864-1 and 280-9297-1

This validation report presents the findings of a quality assurance review of the analytical data generated for ground water samples collected at the former Hillsboro Airport. The samples were collected on 20 and 21 October 2010 and 1 November 2010 and submitted to Test America Laboratories, Inc. (TA) of Denver, Colorado. The samples included in the referenced TA job number are summarized in the Sample Summary (Table 1).

The sample specific analysis performed included volatile organic compounds (VOCs), chlorinated pesticides, and total petroleum hydrocarbons (TPH). The analyses were performed in accordance with the protocols presented in *Test Methods for Evaluating Solid Waste, USEPA SW-846, Third Edition, November 1986 and its updates* and the *Texas Commission of Environmental Quality (TCEQ) Total Petroleum Hydrocarbons.* Specific method references are as follows:

Analysis	*Method References*
VOCs	USEPA SW-846 Method 8260B
Pesticides	USEPA SW-846 Method 8081B
TPH	TCEQ Method 1005

Data Validation Summary

The findings offered in this report are based on a reduced review of the data for all of the sample analyses and a comprehensive review for the samples identified in Table 1. The data have been validated and qualified according to the protocols and quality control (QC) requirements of the analytical methods, general guidance provided in the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, EPA 540-R-08-01, June 2008,* and the reviewer's professional judgment.

The reduced review was based on an evaluation of the following items, reported according to the CLP-equivalent deliverables format: chain of custody documentation; sample preservation; holding times; laboratory method blanks; equipment blanks; single component pesticide dual column precision; and field duplicate sample precision. The comprehensive review included an evaluation of initial and continuing calibration data, bromofluorobenzene (BFB) mass tuning results, laboratory control sample (LCS) results, matrix spike/matrix spike duplicate (MS/MSD) recoveries and reproducibility, surrogate recoveries, internal standard performance, and the quantitation of sample results.

Field duplicate precision was evaluated by comparison of the analytical results for the duplicate samples and calculation of the relative percent difference (RPD) for the analytical results. The field duplicate precision RPD criterion was 20% for VOCs and 25% for pesticides and TPH. A QC limit equal to 2X the Limit of Quantitation (LOQ) was used for field duplicate results at concentrations less than 5X the LOQ.

Data validation qualifiers, consistent with the referenced validation guidance, were added to the electronic data deliverable (EDD) provided with the laboratory data report. The "U" qualifier was applied to all results for which the compound/analyte was analyzed for but not detected above the LOQ or when a positive result has been negated due to blank contamination. The "J" qualifier was applied to all positive results below the LOQ and to all positive results or "non-detect" LOQs that were quantitatively estimated because of QC criteria exceedances.

Data Validation Results

General Comments

The sample bottles for the pesticide analysis of sample MW-05 in the initial sample group (Job Number 280-8864) arrived at the laboratory broken. This sample was recollected and reported in Job Number 280-9297.

The laboratory documented a temperature exceedance with one of the refrigerated storage units. The details of the excursion (i.e., location of samples within the storage unit and the duration of the excursion) indicated that the impact on the sample bottles was minor, and qualification of sample results was not performed.

All samples were prepared and analyzed within the method required holding time. Positive results for one VOC were negated due to equipment blank contamination. Low surrogate recoveries were reported for one of the pesticide method blanks. The data for associated samples in the preparation batch was accepted as the method blank surrogate recoveries were marginally low and there were no target compounds reported in this method blank. Additionally, this issue was isolated to the method blank alone, with all sample surrogate recoveries for this preparation batch within QC limits. The LOQs for two VOCs in the full review sample were qualified for low calibration responses. Low surrogate recoveries were obtained with the pesticide analysis of the full review sample, and the associated results were qualified. Due to a laboratory oversight, a matrix spike duplicate analysis for pesticides was not available for the sample designated for this analysis on the chain of custody.

Qualifications

All positive results reported at concentrations below the LOQ were qualified "J" to indicate that they are quantitative estimates.

The positive results reported for chloroform in samples MW-02, MW-04, and MW-05 are considered qualitatively invalid since similar levels of this analyte were detected in associated equipment blanks. These sample results, which were less than the LOQ, were negated and qualified "U" and reported as less than the LOQ in the EDD.

The initial and continuing calibration relative response factors (RRFs) for acetone and 2-butanone were below the QC limit of 0.05. These low RRFs are an indication of reduced instrument sensitivity with the analysis for acetone and 2-butanone, and the "non-detect" LOQs reported for these compounds in full review sample MW-04 have been qualified "UJ" in the EDD to indicate that they are estimated and possibly biased low.

Low surrogate recoveries were obtained with the pesticide analysis of full review sample MW-04. These low recoveries are an indication of a low bias with the associated analysis, and the positive results or "non-detect" LOQs for pesticides in sample MW-04 have been qualified "J" or "UJ", respectively, to indicate that they are estimated and possibly biased low. The possibility of elevated LOQs should be noted when assessing the "non-detect" results for pesticides in sample MW-04.

The positive results for the pesticides summarized in the following table exhibited dual column RPDs that were greater than the QC limit of 25%. These high RPDs are an indication of matrix interferences with the higher of the two dual column results and/or instrument instability. All of these results that were greater than the LOQ were qualified "J" to indicate that they are quantitative estimates. Final results were reported from the analytical column exhibiting the best performance, as selected by the analyst. The possibility of interferences should be noted when assessing these pesticide results and project objectives.

Pesticides Exhibiting Poor Dual Column Precision	Associated Samples
alpha-BHC, gamma-BHC (Lindane), Aldrin, Dieldrin, Methoxychlor, and 4,4'-DDT	MW-02
Endosulfan sulfate, Endrin ketone, and delta-BHC	MW-03
Endosulfan sulfate, Endrin ketone, delta-BHC, Heptachlor, and Aldrin	MW-01

Comments

Sample MW-07 and its blind field duplicate, MW-QC-01-102110, were submitted to the laboratory to evaluate sampling and analytical precision for the project. Acceptable field duplicate precision was observed for this field duplicate pair.

The laboratory reported a positive result for 4,4'-DDE in sample MW-03. This result was revised to "non-detect", less than the LOQ, in the EDD since there was no positive result reported for this compound with the confirmatory analysis.

The positive results reported for the pesticides endrin, endrin ketone, beta-BHC, dieldrin, methoxychlor, 4,4'-DDT, and toxaphene in sample MW-02 were reported from a diluted reanalysis. This diluted reanalysis was required because the concentrations of these pesticides detected in the initial analysis exceeded the linear calibration range of the instrument. The positive results for these pesticides are reported from the diluted reanalysis. All other results and LOQs for pesticides in sample MW-02 are reported from the initial analysis.

Conclusion

This report presents the findings of the validation of the specified data, which is associated with the analysis of samples collected at the Hillsboro Airport and reported in the referenced TA job number. The data validation included a review of the data deliverables described in the Data Validation Summary portion of this report. The following data validation qualifiers were applied as appropriate:

U – The compound/analyte was analyzed for but not detected above the LOQ or the positive result has been negated due to blank contamination.

UJ – The compound/analyte was not detected and the reported LOQ should be considered a biased low quantitative estimate.

J – The reported value was quantitatively estimated because of a QC exceedance or because the concentration was below the LOQ.

In summary, the laboratory analyses were performed acceptably for the referenced sample results, and are valid and useable with qualifications as presented in this validation report.

13 December 2010

Joseph M. Loeper, Ph.D.
Senior Quality Assurance Chemist

Dated

Tables: Table 1 – Sample Summary

Table 1
Sample Summary
Hillsboro Airport
Hillsboro, Texas
TAL Job Numbers: 280-8864 and 280-9297

Matrix	Sample ID	Lab ID	Collection Date	Analysis
DI Water	MW-05-EB	280-8864-1	10/21/2010	VOCs, Pesticides, and TPH
Ground Water	MW-05	280-8864-2	10/21/2010	VOCs and TPH
Ground Water	MW-05	280-9297-1	11/1/2010	Pesticides
Ground Water	MW-07	280-8864-3	10/21/2010	VOCs, Pesticides, and TPH
Ground Water	MW-QC-01-102110[1]	280-8864-4	10/21/2010	VOCs, Pesticides, and TPH
Ground Water	MW-06	280-8864-5	10/21/2010	VOCs, Pesticides, and TPH
Ground Water	MW-04*	280-8864-6	10/20/2010	VOCs, Pesticides, and TPH
Ground Water	MW-03	280-8864-7	10/20/2010	VOCs, Pesticides, and TPH
Ground Water	MW-01	280-8864-8	10/20/2010	VOCs, Pesticides, and TPH
DI Water	MW-01-EB	280-8864-9	10/20/2010	VOCs, Pesticides, and TPH
Ground Water	MW-02	280-8864-10	10/20/2010	VOCs, Pesticides, and TPH

Notes:

* - This sample received a comprehensive review. All other samples were assessed for holding time compliance, blank contamination, and field duplicate precision.

1 - This sample is a blind field duplicate of sample MW-07.

Equipment Blank samples are identified with an "EB" suffix.

APPENDIX G

TIER 1: ECOLOGICAL EXCLUSION CRITERIA CHECKLIST

APPENDIX G.

TIER 1: ECOLOGICAL EXCLUSION CRITERIA CHECKLIST

This exclusion criteria checklist is intended to aid the person and the TCEQ in determining whether or not further ecological evaluation is necessary at an affected property where a response action is being pursued under the Texas Risk Reduction Program (TRRP). Exclusion criteria refer to those conditions at an affected property which preclude the need for a formal ecological risk assessment (ERA) because there are **incomplete or insignificant ecological exposure pathways** due to the nature of the affected property setting and/or the condition of the affected property media. This checklist (and/or a Tier 2 or 3 ERA or the equivalent) must be completed by the person for all affected property subject to the TRRP. The person should be familiar with the affected property but need not be a professional scientist in order to respond, although some questions will likely require contacting a wildlife management agency (i.e., Texas Parks and Wildlife Department or U.S. Fish and Wildlife Service). The checklist is designed for general applicability to all affected property; however, there may be unusual circumstances which require professional judgement in order to determine the need for further ecological evaluation (e.g., cave-dwelling receptors). In these cases, the person is strongly encouraged to contact TCEQ before proceeding.

Besides some preliminary information, the checklist consists of three major parts, **each of which must be completed unless otherwise instructed.** PART I requests affected property identification and background information. PART II contains the actual exclusion criteria and supportive information. PART III is a qualitative summary statement and a certification of the information provided by the person. **Answers should reflect existing conditions and should not consider future remedial actions at the affected property.** Completion of the checklist should lead to a logical conclusion as to whether further evaluation is warranted. Definitions of terms used in the checklist have been provided and users are strongly encouraged to familiarize themselves with these definitions before beginning the checklist.

Name of Facility: *Airfield Tract*

Affected Property Location: *SEC of Highway 81 and County Road 4231*

Mailing Address: *Hillsboro, Hill County, Texas*

TCEQ Case Tracking #s:

Solid Waste Registration #s:

Voluntary Cleanup Program #:

EPA I.D. #s:

Definitions[1]

Affected property - The entire area (i.e., on-site and off-site; including all environmental media) which contains releases of chemicals of concern at concentrations equal to or greater than the assessment level applicable for residential land use and groundwater classification.

Assessment level - A critical protective concentration level for a chemical of concern used for affected property assessments where the human health protective concentration level is established under a Tier 1 evaluation as described in §350.75(b) of this title (relating to Tiered Human Health Protective Concentration Level Evaluation), except for the protective concentration level for the soil-to-groundwater exposure pathway which may be established under Tier 1, 2, or 3 as described in §350.75(i)(7) of this title, and ecological protective concentration levels which are developed, when necessary, under Tier 2 and/or 3 in accordance

with §350.77(c) and/or (d), respectively, of this title (relating to Ecological Risk Assessment and Development of Ecological Protective Concentration Levels).

Bedrock - The solid rock (i.e., consolidated, coherent, and relatively hard naturally formed material that cannot normally be excavated by manual methods alone) that underlies gravel, soil or other surficial material.

Chemical of concern - Any chemical that has the potential to adversely affect ecological or human receptors due to its concentration, distribution, and mode of toxicity. Depending on the program area, chemicals of concern may include the following: solid waste, industrial solid waste, municipal solid waste, and hazardous waste as defined in Texas Health and Safety Code, §361.003, as amended; hazardous constituents as listed in 40 Code of Federal Regulations Part 261, Appendix VIII, as amended; constituents on the groundwater monitoring list in 40 Code of Federal Regulations Part 264, Appendix IX, as amended; constituents as listed in 40 CFR Part 258 Appendices I and II, as amended; pollutant as defined in Texas Water Code, §26.001, as amended; hazardous substance as defined in Texas Health and Safety Code, §361.003, as amended, and the Texas Water Code, §26.263, as amended; other substances as defined in Texas Water Code, §26.039(a), as amended; and daughter products of the aforementioned constituents.

Community - An assemblage of plant and animal populations occupying the same habitat in which the various species interact via spatial and trophic relationships (e.g., a desert community or a pond community).

Complete exposure pathway - An exposure pathway where a human or ecological receptor is exposed to a chemical of concern via an exposure route (e.g., incidental soil ingestion, inhalation of volatiles and particulates, consumption of prey, etc).

***De minimus* -** The description of an area of affected property comprised of one acre or less where the ecological risk is considered to be insignificant because of the small extent of contamination, the absence of protected species, the availability of similar unimpacted habitat nearby, and the lack of adjacent sensitive environmental areas.

Ecological protective concentration level - The concentration of a chemical of concern at the point of exposure within an exposure medium (e.g., soil, sediment, groundwater, or surface water) which is determined in accordance with §350.77(c) or (d) of this title (relating to Ecological Risk Assessment and Development of Ecological Protective Concentration Levels) to be protective for ecological receptors. Texas Commission on Environmental Quality Page 86 Chapter 350 – Texas Risk Reduction Program These concentration levels are primarily intended to be protective for more mobile or wide-ranging ecological receptors and, where appropriate, benthic invertebrate communities within the waters in the state. These concentration levels are not intended to be directly protective of receptors with limited mobility or range (e.g., plants, soil invertebrates, and small rodents), particularly those residing within active areas of a facility, unless these receptors are threatened/endangered species or unless impacts to these receptors result in disruption of the ecosystem or other unacceptable consequences for the more mobile or wide-ranging receptors (e.g., impacts to an off-site grassland habitat eliminate rodents which causes a desirable owl population to leave the area).

Ecological risk assessment - The process that evaluates the likelihood that adverse ecological effects may occur or are occurring as a result of exposure to one or more stressors; however, as used in this context, only chemical stressors (i.e., COCs) are evaluated.

Environmental medium - A material found in the natural environment such as soil (including non-waste fill materials), groundwater, air, surface water, and sediments, or a mixture of such materials with liquids, sludges, gases, or solids, including hazardous waste which is inseparable by simple mechanical removal processes, and is made up primarily of natural environmental material.

Exclusion criteria - Those conditions at an affected property which preclude the need to establish a protective concentration level for an ecological exposure pathway because the exposure pathway between the chemical of concern and the ecological receptors is not complete or is insignificant.

Exposure medium - The environmental medium or biologic tissue in which or by which exposure to chemicals of concern by ecological or human receptors occurs.

Facility - The installation associated with the affected property where the release of chemicals of concern occurred.

Functioning cap - A low permeability layer or other approved cover meeting its design specifications to minimize water infiltration and chemical of concern migration, and prevent ecological or human receptor exposure to chemicals of concern, and whose design requirements are routinely maintained.

Landscaped area - An area of ornamental, or introduced, or commercially installed, or manicured vegetation which is routinely maintained.

Off-site property (off-site) - All environmental media which is outside of the legal boundaries of the on-site property.

On-site property (on-site) - All environmental media within the legal boundaries of a property owned or leased by a person who has filed a self-implementation notice or a response action plan for that property or who has become subject to such action through one of the agency's program areas for that property.

Physical barrier - Any structure or system, natural or manmade, that prevents exposure or prevents migration of chemicals of concern to the points of exposure.

Point of exposure - The location within an environmental medium where a receptor will be assumed to have a reasonable potential to come into contact with chemicals of concern. The point of exposure may be a discrete point, plane, or an area within or beyond some location.

Protective concentration level - The concentration of a chemical of concern which can remain within the source medium and not result in levels which exceed the applicable human health risk-based exposure limit or ecological protective concentration level at the point of exposure for that exposure pathway.

Release - Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, with the exception of:

(A) A release that results in an exposure to a person solely within a workplace, concerning a claim that the person may assert against the person's employer;

(B) An emission from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine;

(C) A release of source, by-product, or special nuclear material from a nuclear incident, as those terms are defined by the Atomic Energy Act of 1954, as amended (42 U.S.C. §2011 *et seq*.), if the release is subject to requirements concerning financial protection established by the Nuclear Regulatory Commission under §170 of that Act;

(D) For the purposes of the environmental response law §104, as amended, or other response action, a release of source, by-product, or special nuclear material from a processing site designated under §102(a)(1) or §302(a) of the Uranium Mill Tailings Radiation Control Act of 1978 (42 U.S.C. §7912 and §7942), as amended; and

(E) The normal application of fertilizer.

Sediment - Non-suspended particulate material lying below surface waters such as bays, the ocean, rivers, streams, lakes, ponds, or other similar surface water body (including intermittent streams). Dredged sediments which have been removed from below surface water bodies and placed on land shall be considered soils.

Sensitive environmental areas - Areas that provide unique and often protected habitat for wildlife species. These areas are typically used during critical life stages such as breeding, hatching, rearing of young, and overwintering. Examples include critical habitat for threatened and endangered species, wilderness areas, parks, and wildlife refuges.

Source medium - An environmental medium containing chemicals of concern which must be removed, decontaminated and/or controlled in order to protect human health and the environment. The source medium may be the exposure medium for some exposure pathways.

Stressor - Any physical, chemical, or biological entity that can induce an adverse response; however, as used in this context, only chemical entities apply.

Subsurface soil - For human health exposure pathways, the portion of the soil zone between the base of surface soil and the top of the groundwater-bearing unit(s). For ecological exposure pathways, the portion of the soil zone between 0.5 feet and 5 feet in depth.

Surface cover - A layer of artificially placed utility material (e.g., shell, gravel).

Surface soil - For human health exposure pathways, the soil zone extending from ground surface to 15 feet in depth for residential land use and from ground surface to 5 feet in depth for commercial/industrial land use; or to the top of the uppermost groundwater-bearing unit or bedrock, whichever is less in depth. For ecological exposure pathways, the soil zone extending from ground surface to 0.5 feet in depth.

Surface water - Any water meeting the definition of surface water in the state as defined in §307.3 of this title (relating to Abbreviations and Definitions), as amended.

PART I. Affected Property Identification and Background Information 1) Provide a description of the specific area of the response action and the nature of the release. Include estimated acreage of the affected property and the facility property, and a description of the type of facility and/or operation associated with the affected property. Also describe the location of the affected property with respect to the facility property boundaries and public roadways.

Attach available USGS topographic maps and/or aerial or other affected property photographs to this form to depict the affected property and surrounding area. Indicate attachments:

☑Topo map ☑Aerial photo ☐Other

2) Identify environmental media known or suspected to contain chemicals of concern (COCs) at the present time. Check all that apply:

Known/Suspected COC Location	Based on sampling data?
Soil <5 ft below ground surface	☑Yes ☐No
Soil >5 ft below ground surface - Unknown	☐Yes ☐No
Groundwater	☑Yes ☐No
Surface Water/Sediments - Unknown	☐Yes ☐No

Explain (previously submitted information may be referenced):

Terracon. 2006. PHASE I ENVIRONMENTAL SITE ASSESSMENT, Airfield Tract, SEC of Highway 81 and County Road 4231,Hillsboro, Hill County, Texas 76645, Project No. 94067282D

3) Provide the information below for the nearest surface water body which has become or has the potential to become impacted from migrating COCs via surface water runoff, air deposition, groundwater seepage, etc. Exclude wastewater treatment facilities and storm water conveyances/impoundments authorized by permit. Also exclude conveyances, decorative ponds, and those portions of process facilities which are:

a. Not in contact with surface waters in the State or other surface waters which are ultimately in contact with surface waters in the State; and

b. Not consistently or routinely utilized as valuable habitat for natural communities including birds, mammals, reptiles, etc.

The nearest surface water body is _<1/4__ mile from the affected property and is named Bond Creek and Little Hackberry Creek. The water body is best described as a:

☑freshwater stream:

☐perennial (has water all year)

☑ intermittent (dries up completely for at least 1 week a year)

☐ intermittent with perennial pools

☐freshwater swamp/marsh/wetland

☐saltwater or brackish marsh/swamp/wetland

☐reservoir, lake, or pond; approximate surface acres:_____

☐ drainage ditch

☐tidal stream ☐bay ☐ estuary

☐other; specify

Is the water body listed as a State classified segment in Appendix C of the current Texas Surface Water Quality Standards; §§307.1 - 307.10?

☐ Yes Segment #_____ Use Classification:_____

☑ No

If the water body is not a State classified segment, identify the first downstream classified segment.

Name: *Aquilla Reservoir*

Segment #: *1254*

Use Classification: *Primary Contact Recreation (PCR), Aquatic Life High (H), Domestic Use Public Supply (PS)*

As necessary, provide further description of surface waters in the vicinity of the affected property:

Intermittent stream within ¼ mile, Katy Lake within 1 mile according to Terracon 2006, Phase I ESA. Drainage ditches from site referenced, not shown on figures. There has been no sampling in the ditch at the property boundary, or of sediments downgradient of the property. Aquilla Reservoir is downgradient. There is no known discharge to the surface water, although groundwater may discharge and stormwater runoff through the ditches may have caused a release. No information regarding flow of the streams in the vicinity of the site is available.

PART II. Exclusion Criteria and Supportive Information Subpart A. Surface Water/Sediment Exposure

1) Regarding the affected property where a response action is being pursued under the TRRP, have COCs migrated and resulted in a release or imminent threat of release to either surface waters or to their associated sediments via surface water runoff, air deposition, groundwater seepage, etc.? Exclude wastewater treatment facilities and storm water conveyances/impoundments authorized by permit. Also exclude conveyances, decorative ponds, and those portions of process facilities which are:

a. Not in contact with surface waters in the State or other surface waters which are ultimately in contact with surface waters in the State; and

b. Not consistently or routinely utilized as valuable habitat for natural communities including birds, mammals, reptiles, etc.

☑Yes ☐No

Explain: If the answer is Yes to Subpart A above, the affected property does not meet the exclusion criteria. However, complete the remainder of Part II to determine if there is a complete and/or significant soil exposure pathway, then complete PART III - Qualitative Summary and Certification. If the answer is No, go to Subpart B.

Sampling has not been performed to characterize the nature and extent of any releases to surface water bodies southeast of the site. Therefore, it was assumed a release could have occurred until proven otherwise.

Subpart B. Affected Property Setting

In answering "Yes" to the following question, it is understood that the affected property is not attractive to wildlife or livestock, including threatened or endangered species (i.e., the affected property does not serve as valuable habitat, foraging area, or refuge for ecological communities). (May require consultation with wildlife management agencies.)

1) Is the affected property wholly contained within contiguous land characterized by: pavement, buildings, landscaped area, functioning cap, roadways, equipment storage area, manufacturing or process area, other surface cover or structure, or otherwise disturbed ground?

☐Yes ☑No

Explain:

There is agricultural land and wooded areas adjacent to the property.

If the answer to Subpart B above is Yes, the affected property meets the exclusion criteria, assuming the answer to Subpart A was No. Skip Subparts C and D and complete PART III - Qualitative Summary and Certification. If the answer to Subpart B above is No, go to Subpart C.

Subpart C. Soil Exposure 1) Are COCs which are in the soil of the affected property solely below the first 5 feet beneath ground surface **or** does the affected property have a physical barrier present to prevent exposure of receptors to COCs in surface soil?

☐Yes ☑No

Explain: *Surface soils contain pesticides.*

If the answer to Subpart C above is Yes, the affected property meets the exclusion criteria, assuming the answer to Subpart A was No. Skip Subpart D and complete PART III - Qualitative Summary and Certification. If the answer to Subpart C above is No, proceed to Subpart D.

Subpart D. *De Minimus* Land Area

In answering "Yes" to the question below, it is understood that all of the following conditions apply:

- The affected property is not known to serve as habitat, foraging area, or refuge to threatened/endangered or otherwise protected species. (Will likely require consultation with wildlife management agencies.) *False*
- Similar but unimpacted habitat exists within a half-mile radius. *True*
- The affected property is not known to be located within one-quarter mile of sensitive environmental areas (e.g., rookeries, wildlife management areas, preserves). (Will likely require consultation with wildlife management agencies.) *Unknown*
- There is no reason to suspect that the COCs associated with the affected property will migrate such that the affected property will become larger than one acre. *False – 30 ac source*

1) Using human health protective concentration levels as a basis to determine the extent of the COCs, does the affected property consist of one acre or less and does it meet all of the conditions above?

☐Yes ☑No

Explain how conditions are met/not met:

The affected soils on the site exceed an area larger than one acre.

If the answer to Subpart D above is Yes, then no further ecological evaluation is needed at this affected property, assuming the answer to Subpart A was No. Complete PART III - Qualitative

Summary and Certification. If the answer to Subpart D above is No, proceed to Tier 2 or 3 or comparable ERA.

PART III. Qualitative Summary and Certification (Complete in all cases.)

Attach a brief statement (not to exceed 1 page) summarizing the information you have provided in this form. This summary should include sufficient information to verify that the affected property meets or does not meet the exclusion criteria. The person should make the initial decision regarding the need for further ecological evaluation (i.e., Tier 2 or 3) based upon the results of this checklist. After review, TCEQ will make a final determination on the need for further assessment. **Note that the person has the continuing obligation to re-enter the ERA process if changing circumstances result in the affected property not meeting the Tier 1 exclusion criteria.**

Completed by: Dr. Carolyn Fordham *(Typed/Printed Name)*

Toxicologist
(Title)

December 1, 2010
(Date)

I believe that the information submitted is true, accurate, and complete, to the best of my knowledge.

Dr. Carolyn Fordham *(Typed/Printed Name)*

Toxicologist
(Title)

(Signature of Person)

December 1, 2010 *(Date Signed)*

1 These definitions were taken from 30 TAC §350.4 and may have both ecological and human health applications. For the purpose of this checklist, it is understood that only the ecological applications are of concern.

APPENDIX H

DEFINITIONS AND MANDITORY EXPOSURE PATHWAYS
(TRRP 22, TCEQ 2005)

Appendix H. Definitions and Mandatory Exposure Pathways, TRRP 22, TCEQ 2005.

Source Medium	Complete or Reasonably Anticipated to Be Completed Exposure Pathways	PCL
Surface Soil	*Residential:* Combined ingestion, dermal contact, inhalation of volatiles and particulates, and ingestion of above-ground and below-ground vegetables with COCs in soil. *Commercial/Industrial:* Combined ingestion, dermal contact, and inhalation of volatiles and particulates of COCs in soil.	$^{Tot}Soil_{Comb}$
Subsurface Soil	Inhalation of volatile COCs from soil.	$^{Air}Soil_{Inh\text{-}V}$
Surface and Subsurface Soil	Soil-to-groundwater leaching of COCs to Class 1 and 2 groundwater.	$^{GW}Soil_{Ing}$ or $^{GW}Soil_{Secondary\ MCL}$
	Soil-to-groundwater leaching of COCs to Class 3 groundwater.	$^{GW}Soil_{Class\ 3}$
Class 1 Groundwater	Ingestion of COCs in Class 1 groundwater.	$^{GW}GW_{Ing}$ or $^{GW}GW_{Secondary\ MCL}$
Class 2 Groundwater	Ingestion of COCs in Class 2 groundwater.	$^{GW}GW_{Ing}$ or $^{GW}GW_{Secondary\ MCL}$*
Class 3 Groundwater	COCs in Class 3 groundwater.	$^{GW}GW_{Class\ 3}$
Class 1, 2 and 3 Groundwater	Inhalation of volatile COCs from Class 1, 2 or 3 groundwater.	$^{Air}GW_{Inh\text{-}V}$
All environmental media	Other complete or reasonably anticipated to be completed exposure pathways.	Other
*For Class 2 groundwater, secondary MCLs only apply if a potable water well is impacted or threatened, or if the Class 2 groundwater is the only water supply source [§350.74(f)(3)(B) and (C)].		

APPENDIX I

LIMITED SITE INVESTIGATION – INGRAHAM TRACT
(Terracon, 2007)

Terracon
Consulting Engineers & Scientists

8901 Carpenter Freeway, Suite 100
Dallas, Texas 75247
Phone 214.630.1010
Fax 214.630.7070
www.terracon.com

LIMITED SITE INVESTIGATION

Ingraham Tract
Hwy 81 and CR 4231
Hillsboro, Texas

Terracon Project No. 94067282C
November 6, 2007

Prepared for:

Hillsboro Economic Development Corporation
127 East Franklin Street
Hillsboro, Texas 76645

Prepared by:

TERRACON
Dallas, Texas

November 6, 2007

Terracon
Consulting Engineers & Scientists
8901 Carpenter Freeway, Suite 100
Dallas, Texas 75247
Phone 214.630.1010
Fax 214.630.7070
www.terracon.com

Hillsboro Economic Development Corporation
127 East Franklin Street
Hillsboro, Texas 76645
Attn: Ms. Sandra Barner

Telephone: (254) 582-3271
Fax: (254) 582-0112

Re: Limited Site Investigation
Ingraham Tract
Hwy 81 and CR 4231
Terracon Project No. 94067282C

Dear Ms. Barner

Terracon Consultants, Inc. (Terracon) is pleased to submit three copies of the Limited Site Investigation (LSI) report for the above referenced site. This investigation was performed in accordance with Terracon's Proposal Number P05941903, dated October 24, 2006.

The investigation-derived waste materials are currently staged at the airfield tract. Upon your request, Terracon will provide a proposal for characterization and disposal of these materials.

We appreciate the opportunity to perform these services for Hillsboro Economic Development Corporation. Please contact either of the undersigned at (214) 630-1010 if you have questions regarding the information provided in the report.

Sincerely,
Terracon

Prepared by:

Steven W. Fleming, P.G.
Project Manager

Reviewed by:

Carl A. Parten, P.G.
Principal

Enclosure

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LIMITED SITE INVESTIGATION

INGRAHAM TRACT
HWY 81 and CR 4231
Hillsboro, Texas

Terracon Project No. 94067282C
November 6, 2007

1.0 INTRODUCTION

1.1 Site Description

Site Name	Ingraham Tract
Site Location/Address	HWY 81 and CR 4231, Hillsboro, Texas
General Site Description	Undeveloped agricultural property comprising approximately 208 Acres

A topographic map is included as Figure 1, and a site plan with sample locations, sampling results and a detail of the former barn are included as Figure 2, Figure 3A and Figure 3B of Appendix A.

1.2 Scope of Work

Terracon conducted a Limited Site Investigation (LSI) at the Ingraham Tract, located east of Hwy 81 and south CR 4231 in Hillsboro, Texas. At your request, Terracon's LSI was undertaken in response to the results of Terracon's Environmental Site Assessment (ESA Report No. 94067282A) dated June 12, 2006, performed concurrently with the LSI, which identified the following recognized environmental condition (REC):

- The former Hillsboro Airport located adjacent to the site and its former underground storage tanks and historical fueling operations;
- The former Schronk Aero Spray crop dusting operation located adjacent to the site and its historical storage of bulk agricultural chemicals; and
- The former on-site barn where unlabeled drums and small containers of various herbicides and insecticides were stored.

The objective of the LSI was to evaluate the presence of organophosphorous pesticides,

organochlorine pesticides, chlorinated herbicides, Resource Conservation Recovery Act (RCRA) 8 metals, volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH) in the on-site soils and groundwater (above relevant laboratory reporting limits) as a result of potential releases from the former underground storage tanks associated with the former Hillsboro Airport and Schronk Aero Spray operations, associated historical use and storage of bulk agricultural chemicals located adjacent to the site and the former on-site barn. Terracon's LSI was conducted in accordance with Terracon's Proposal Number P94051903 dated April 11, 2006, as authorized by Mr. Jerry Barker, administrator for the Hillsboro Economic Development Corporation (HEDC) on May 10, 2006 and the Supplement to Agreement for Services, Change to Scope of Services and Fees, approved by Ms. Sandra Barner on November 11, 2006.

1.3 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. Terracon makes no warranties, either express or implied, regarding the findings, conclusions or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report. These LSI services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal and were not restricted by ASTM E1903-97.

1.4 Additional Scope Limitations

Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable or not present during these services, and we cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this LSI. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations or exploratory services; the data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

1.5 Reliance

This report has been prepared for the exclusive use of the HEDC, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of the HEDC and Terracon. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the proposal, LSI report, and Terracon's Terms and Conditions. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to the client and all relying parties unless otherwise agreed in writing.

2.0 FIELD ACTIVITIES

2.1 Borings and Monitoring Wells

Terracon's field activities were conducted on November 10, 13, 21, 29, December 4 and 18, 2006, January 19 and February 27, 2007, by Steven W. Fleming, Tripp Givens, Chris Rial and Erin Loyd with Terracon. As part of the approved scope of work, one shallow soil boring (SS-1) and three (3) deep soil borings/permanent groundwater monitoring wells (MW-1(I), MW-2(I) and MW-3(I)) were advanced on-site. The three deep soil borings/permanent groundwater monitoring wells were installed approximately 200 feet apart on the western boundary of the Ingraham Tract and the shallow soil boring was installed in the location of the former on-site barn.

Figure 1 presents the general boundaries and topography of the site on portions of the USGS topographic quadrangle maps of Hillsboro West and Hillsboro East, Texas (Appendix A). Figure 2 presents the boundaries and area of interest in relation to the rest of the property. Figure 3A and Figure 3B are a general site plan, a site plan indicating the approximate locations of the soil borings/monitoring wells with sampling results and a detail of the drum storage barn, in relation to the pertinent structures and general site boundaries, respectively (Appendix A).

Drilling services, with the exception of the shallow soil boring, which was accomplished via hand-augar sampling equipment, were performed by a State of Texas licensed Monitoring Well Driller using a truck-mounted hollow stem auger drilling rig CME-75 under the supervision of a Terracon environmental professional. Soil samples were collected using five-foot core barrel samplers or Shelby tubes. Shallow soil boring SS-1 was advanced using a hand auger. Drilling equipment was

cleaned using a high pressure washer prior to beginning the project and before beginning each soil boring. Sampling equipment was cleaned using an Alconox® wash and potable water prior to the beginning of the project and before collecting each soil sample.

Soil samples were collected continuously and observed to document soil lithology, color, moisture content and sensory evidence of impairment. The soil samples were field-screened using a photoionization detector (PID – Thermo Environmental Instruments Model 580B OVM) to indicate the presence of VOCs.

The general soil lithology encountered during sample collection at the three soil boring/monitoring well locations consisted of the following:

- Silty Clay – from the ground surface to a depth of 2.5 to 3.5 feet below grade surface (bgs);
- Silty Clay with calcareous nodules to approximately 9 to 12 feet bgs;
- Silty Clay with gravel - to approximately 14 to 16.5 feet bgs;
- Silty Clay (laminated and fossiliferous) - to approximately 25 to 29.5 feet bgs; and
- Shale – to the terminus of the soil borings at depths of 25.1 to 31.5 feet bgs.

Detailed lithologic descriptions are presented on the soil boring logs included in Appendix B.

Groundwater was not encountered during the advancement of shallow soil boring SS-1; however, groundwater was encountered during the installation of monitoring wells MW-1(I), MW-2(I) and MW-3(I) at depths of 16.0 feet bgs, 9.0 feet bgs and 12.0 feet bgs, respectively.

The groundwater flow direction and the depth to shallow groundwater, if present, would likely vary depending upon seasonal variations in rainfall and depth to the soil/bedrock interface. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater flow direction beneath the site cannot be ascertained.

No PID readings or odors were detected in the shallow soil boring or soil borings/permanent monitoring wells installed at the site. The soil boring logs are included in Appendix B.

Following completion, shallow soil boring SS-1 was backfilled with existing on-site soil.

Subsequent to advancement, soil borings MW-1(I), MW-2(I) and MW-3(I) were converted to permanent groundwater monitoring wells. The monitoring wells were completed using the following

methodology:

- Installation of 20 to 25.0 feet of 2-inch diameter, 0.010-inch machine slotted PVC well screen with a threaded bottom cap;
- Installation of 5 feet of 2-inch diameter, threaded, flush joint PVC riser pipe to the surface;
- Addition of a pre-sieved 20/40-grade annular silica sand pack from the bottom of the boring to approximately 2 feet above the top of the well screen;
- Addition of 2 feet of hydrated bentonite seal above the sand pack filter zone;
- Addition of a slurry mixture of powdered bentonite and Portland cement to the near surface;
- Installation of a 3-inch by 3-inch steel, above-grade well cover, with a locking cover and locking well cap, and concrete well pad.

Monitoring well construction details are presented on the soil boring logs and are included in Appendix B.

Monitoring well MW-3(I) was developed by surging and removing groundwater with a new, disposable, polypropylene bailer or a submersible pump until the groundwater was relatively free of fine-grained sediment.

It should be noted that monitoring well MW-1(I) and MW-2(I) were dry during the November 13, 2006 gauging event. Based on groundwater gauging events conducted November 29, 2006, December 4, 2006 and December 18, 2006, measurable groundwater was encountered in monitoring wells MW-1(I) and MW-2(I). Subsequent to groundwater recharge, monitoring wells MW-1(I) and MW-2(I) were developed by surging and removing groundwater with a new, disposable, polypropylene bailer or a submersible pump until the groundwater was relatively free of fine-grained sediment.

Soil cuttings, groundwater and equipment cleaning water generated during the field activities were placed in Department of Transportation (DOT) approved, 55-gallon steel drums, closed and appropriately labeled with project-specific information and initial accumulation date. A total of ten (10) 55-gallon drums containing soil cuttings, three (3) 55-gallon drums containing equipment cleaning water and one (1) 55-gallon drum containing groundwater were generated during these field services and were left onsite for subsequent characterization and disposal. Upon your request, Terracon will provide a proposal for characterization and disposal of these materials.

2.2 Soil and Groundwater Sampling

Terracon's soil sampling program involved submitting one (1) to three (3) soil samples from each soil boring location for laboratory analysis. Since no elevated PID readings were detected, soil samples were collected from the surface soil zone, from the capillary fringe zone, from the interval exhibiting a change in lithology, or from the bottom of the boring, based on the field professional's judgment. Soil sample intervals for each boring are presented with the soil sample analytical results (Table 1) and are provided on the lithologic boring logs included in Appendix B.

One (1) groundwater sample was collected and analyzed from each groundwater monitoring well. Prior to sample collection, each monitoring well was purged until the monitoring well formation failed to recharge (i.e., well ran dry) or consistent values (i.e., less than 10% variance between consecutive readings) were obtained for pH, temperature and conductivity. Subsequent to sufficient recharge, one groundwater sample was collected from each monitoring well utilizing a new, disposable, polypropylene bailer. Due to the very slow rate of groundwater recharge at the MW-1(I) and MW-2(I) locations, insufficient volume of groundwater required multiple site visits to collect the necessary volume of water for analysis.

Soil and groundwater samples were collected and placed in laboratory prepared glassware, sealed with custody tape and placed on ice in a cooler which was secured with a custody seal. The sample coolers and completed chain-of-custody forms were relinquished to ERMI Environmental Laboratories in Allen, Texas on a regular turnaround.

3.0 LABORATORY ANALYTICAL METHODS

The soil sample collected from the surface soil at SS-1, (0.25-0.75), was analyzed for RCRA 8 metals utilizing EPA methods SW-846 #6010B/7471A, organophosphorous pesticides utilizing EPA method SW-846 #8141A, organochlorine pesticides utilizing EPA method SW-846 #8081A, chlorinated herbicides utilizing EPA method SW-846 #8151A, VOCs utilizing EPA method SW-846 #8260B and TPH utilizing TCEQ method TX1005. The soil samples collected from the surface soil MW-1(I) (0.0-0.5), MW-2(I) (0.0-0.5 and 2.0-3.0) and MW-3(I) (0.0-0.5), were analyzed for RCRA 8 metals utilizing EPA methods SW-846 #6010B/7471A, organophosphorous pesticides utilizing EPA method SW-846 #8141A, organochlorine pesticides utilizing EPA method SW-846 #8081A, and chlorinated herbicides utilizing EPA method SW-846 #8151A. In addition, the soil sample collected from MW-2(I) at 0.0-0.5 feet was additionally analyzed for organochlorine pesticide 4,4

dichlorodiphenyldichlororoethylene (DDE) using Synthetic Precipitate Leaching Procedure (SPLP) method SW-846 #8081A/1312. The soil samples collected from soil borings MW-1(I) (28.0-28.1), MW-2(I) (8.5-9.0), and MW-3(I) (11.0-12.0) were analyzed for VOCs utilizing EPA method SW-846 #8260B and TPH utilizing TCEQ method TX1005. The groundwater samples collected from monitoring wells MW-1(I), MW-2(I) and MW-3(I) were analyzed for RCRA 8 metals utilizing EPA SW-846 #6020/7470A, organophosphorous pesticides utilizing EPA method SW-846 #8141A, organochlorine pesticides utilizing EPA method SW-846 #8081A, chlorinated herbicides utilizing EPA method SW-846 #8151A, VOCs utilizing EPA method SW-846 #8260B, and TPH utilizing TCEQ method TX1005.

Laboratory results are summarized in the tables included in Appendix C. The executed chain-of-custody form and laboratory data sheets are provided in Appendix D.

4.0 DATA EVALUATION

4.1 Soil Samples

The soil samples collected from soil borings SS-1 (0.25-0.75), MW-1(I) (28.0-28.1), MW-2(I) (8.5-9.0), and MW-3(I) (11.0-12.0) did not exhibit TPH or VOC concentrations above the laboratory sample quantitation limits (SQL). The surface soil samples collected from, SS-1 (0.25-0.75), MW-1(I) (0.0-0.5), MW-2(I) (2.0-3.0) and MW-3(I) (0.0-0.5) did not indicate chlorinated herbicide or organophosphorous pesticides concentrations above the laboratory SQL. Surface soil samples SS-1 (0.25-0.75) and MW-2(I) (0.0-0.5) exhibited organophosphorous pesticide constituent concentrations above the laboratory SQL. Surface soil sample SS-1 (0.25-0.75) exhibited gamma-chlordane at a concentration of 0.00308 mg/Kg, 4,4'-DDE concentration of 0.0422 mg/Kg, the 4,4'-DDT concentration of 0.0535 mg/Kg and heptachlor epoxide concentration of 0.00322 mg/Kg. Surface soil sample MW-2(I) (0.0-0.5) exhibited 4,4'-DDE at a concentration of 7.07 mg/Kg. In order to evaluate the potential leachability of the detected 4,4'-DDE, an additional sample was collected from the MW-2(I) location at a depth of 0.0-0.5 feet bgs and analyzed for 4,4' DDE using SPLP. Results from the SPLP analysis did not indicate 4,4' DDE above the laboratory SQL.

The soil samples collected from SS-1, MW-1(I), MW-2(I) and MW-3(I) exhibited arsenic, barium, cadmium, chromium, lead, mercury and silver concentrations above the laboratory SQL.

Terracon compared the organophosphorous pesticide constituents and RCRA 8 metals

concentrations detected in the on-site soil samples to the Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP) (30TAC Chapter 350) Tier 1 Residential Protective Concentration Levels (PCLs) for a 30-acre source area. The gammas-chlordane, 4,4'-DDE, 4,4'-DDT and heptachlor epoxide concentrations detected in the soil sample collected from SS-1 did not exceed the Tier 1 Residential $^{GW}Soil_{Ing}$ PCL for a 30-acre source area. The 4,4'-DDE concentration detected in the soil sample collected from MW-2(I) detected at 0.0-0.5 feet bgs exceeds the Tier 1 Residential $^{GW}Soil_{Ing}$ PCL; however, based on SPLP analysis and the absence of 4,4'-DDE in the groundwater sample collected from MW-2(I), the detected constituent in the soil is not likely to leach to the groundwater. Additionally, the 4,4'-DDE concentration is below the Tier 1 Residential $^{Tot}Soil_{Comb}$ PCL.

The arsenic, lead and silver concentrations detected in the on-site soil samples exceed the TRRP Tier 1 Critical PCL and/or the Texas Specific Background Concentration (TSBC). The lead concentrations detected in the soil samples collected from SS-1 (0.25-0.75), MW-2(I) (0.0-0.5) and MW-3(I) (0.0-0.5) exceed the lead TRRP Tier 1 Critical PCL of 1.5 mg/Kg and the TSBC of 15 mg/kg. The arsenic concentrations detected in the soil samples collected from SS-1 (0.25-0.75), MW-1(I) (0.0-0.5), MW-2(I) (0.0-0.5 and 2.0-3.0) and MW-3(I) (0.0-0.5) exceed the TRRP Tier 1 Critical PCL of 2.5 mg/Kg and the TSBC of 5.9 mg/kg. The silver concentration detected in the soil sample collected from SS-1 (0.25-0.75), exceeds the TRRP Tier 1 Critical PCL of 0.71 mg/Kg.

In order to further evaluate the arsenic and lead concentrations detected at the site, a site-specific background study was conducted. Ten soil samples (BG-1 through BG-10) were collected at a depth of 0-0.5 feet bgs along accessible highway and country road right-of-ways and along the eastern portion of the site. Statistical analysis of the arsenic and lead concentrations detected in the ten soil samples was performed to calculate background concentrations for the site vicinity. The statistical analysis was performed using the 95% upper tolerance limit (UTL) statistical evaluation previously approved by the TCEQ. Utilizing the 95% UTL, the site specific background concentration (SSBC) for arsenic was calculated to be 33.9 mg/Kg, and the SSBC for lead was calculated to be 120.4 mg/Kg. Following a meeting between the TCEQ, members of the Hillsboro Economic Development Corporation and Terracon regarding the calculation of SSBCs using the 95% UTL, the TCEQ commented in a letter date July 27, 2007, that while Terracon's 95% UTL calculation was acceptable, future evaluations of SSBCs by the TCEQ will be made using the 95% upper prediction limit (UPL). Subsequently Terracon recalculated the SSBCs using the more conservative 95% UPL. For arsenic the SSBC was recalculated to be 28.9 mg/Kg. The SSBC for lead was recalculated to be 91.9 mg/Kg. Subsequent to statistical analysis using the UPL, the recalculated SSBCs were compared to the observed on-site concentrations. The arsenic and lead

concentrations detected at the MW-1 (I), MW-2 (I) and MW-3 (I) locations are below their respective SSBC calculated using the 95% UPL. The arsenic and lead concentrations detected in soil collected from the SS-1 location exceed the applicable calculated SSBCs.

The soil sample analytical results are summarized in Tables 1 through Table 4 included in Appendix C.

4.2 Groundwater Samples

The groundwater samples collected from groundwater monitoring wells MW-1(I), MW-2(I) and MW-3(I) did not exhibit TPH, VOC, organophosphorous pesticides, organochlorine pesticides or chlorinated herbicides above the SQLs.

The groundwater samples collected from groundwater monitoring wells MW-1(I), MW-2(I) and MW-3(I) did not exhibit mercury or silver concentrations above the laboratory SQL. Additionally the groundwater sample from MW-3(I) did not exhibit arsenic or chromium in concentrations above the laboratory SQL.

The groundwater samples collected from MW-1(I), MW-2(I) exhibited arsenic, barium, cadmium, chromium, lead and selenium above laboratory SQL. The groundwater sample from MW-3(I) exhibited barium, cadmium, lead and selenium above laboratory SQL.

Terracon compared the detected arsenic, barium, cadmium, chromium, lead and selenium concentrations identified in the on-site groundwater samples to the TCEQ Tier 1 Residential PCLs for Class I groundwater resources. The Critical PCL for the COCs identified in on-site groundwater was the lower of the applicable PCL, the $^{GW}GW_{Ing}$.

Based on laboratory analysis, the groundwater samples collected at the site did not exhibit arsenic, barium, cadmium, chromium, lead, selenium or silver concentrations above the applicable Tier 1 Residential Groundwater PCL.

The groundwater sample analytical results are summarized in Tables 4 through Table 6 included in Appendix C.

5.0 FINDINGS AND RECOMMENDATIONS

The findings and recommendations of this investigation are as follows:

- Please note that as part of the scope of work included in Terracon's proposal, a Underground Storage Tanks (USTs) Permanent Removal from Service report dated September 27, 2006 (under separate cover) documents the assessment activities associated with the removal of the 550-gallon UST identified on-site as well as the 3 USTs associated with the adjacent Airfield tract.

- Based on the findings of this assessment, shallow soils collected at the former on-site barn (SS-1) appear to be affected with arsenic, lead and silver in excess of the SSBC calculated using the 95% UPL. Details regarding the excavation, transportation and disposal of the affected soil are presented in Terracon's report (94067282C) dated September 26, 2007, and included in Appendix E.

- The on-site groundwater in the vicinity of MW-1(I), MW-2(I) and MW-3(I) is not affected with VOCs, TPH, organophosphorous pesticides, chlorinated herbicides or RCRA 8 metals above SQLs and/or Tier 1 Critical PCLs.

- Soil cuttings, groundwater and equipment cleaning water generated during the field activities were placed in Department of Transportation (DOT) approved, 55 gallon steel drums, closed and appropriately labeled with project-specific information and initial accumulation date. A total of ten (10) 55-gallon drums containing soil cuttings, three (3) 55-gallon drums containing equipment cleaning water and one (1) 55-gallon drum containing groundwater were generated during these field services and were left onsite for subsequent characterization and disposal. Upon your request, Terracon will provide a proposal for characterization and disposal of these materials.

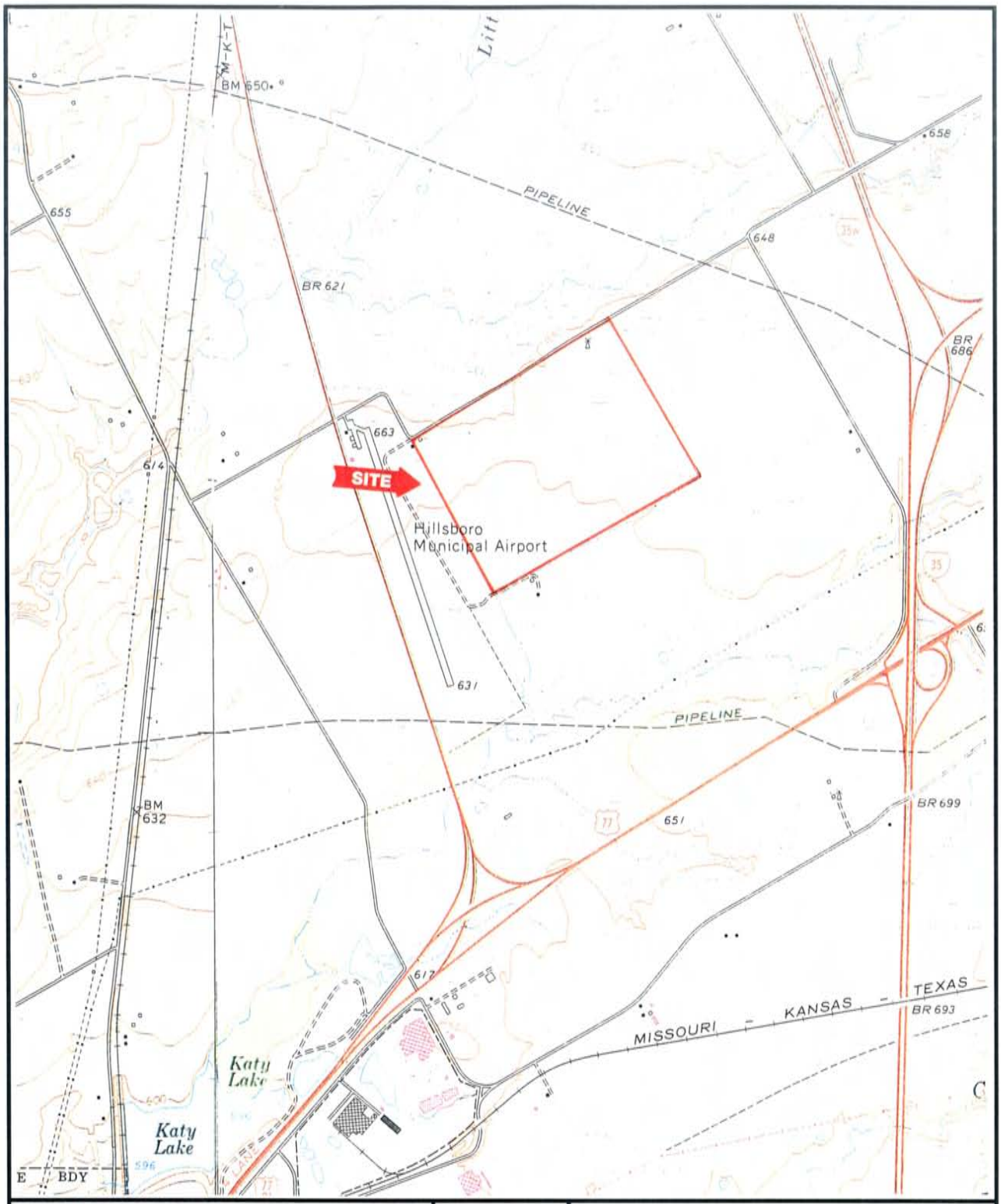
- The objective of the LSI was to evaluate the presence of VOCs and TPH in the on-site soils and groundwater (above relevant laboratory reporting limits) as a result of potential releases from the adjacent former USTs. Additionally, the objective of the LSI was to evaluate the presence of RCRA 8 metals, organophosphorous pesticides, organochlorine pesticides, and chlorinated herbicides in the on-site soils and groundwater (above relevant laboratory reporting limits) as a result of potential releases from the off-site former Schronk Aero Spray operations and associated use and storage of bulk agricultural chemicals on-site.

- If soils or groundwater located on the site are to be disturbed during future excavations or construction activities, proper procedures should be followed with respect to worker health and safety, and any affected soil or groundwater encountered should be properly characterized, treated and/or disposed in accordance with applicable local, state or federal regulations.

- Based on the findings of this LSI, and subsequent to the excavation, transportation and disposal of the affected soil in the vicinity of soil boring SS-1 (as detailed in the attached report), no further action appears warranted at this time.

APPENDIX A

Figure 1 – Topographic Map
Figure 2 – Site Plan
Figure 3 A – Site Plan with Sampling Results
Figure 3 B – Former Drum Storage Barn Detail



USGS TOPOGRAPHIC QUADRANGLE MAP
Hillsboro West and East, Texas

Dated 1966 (Photorevised 1978)
SCALE: 1" = 2,000'

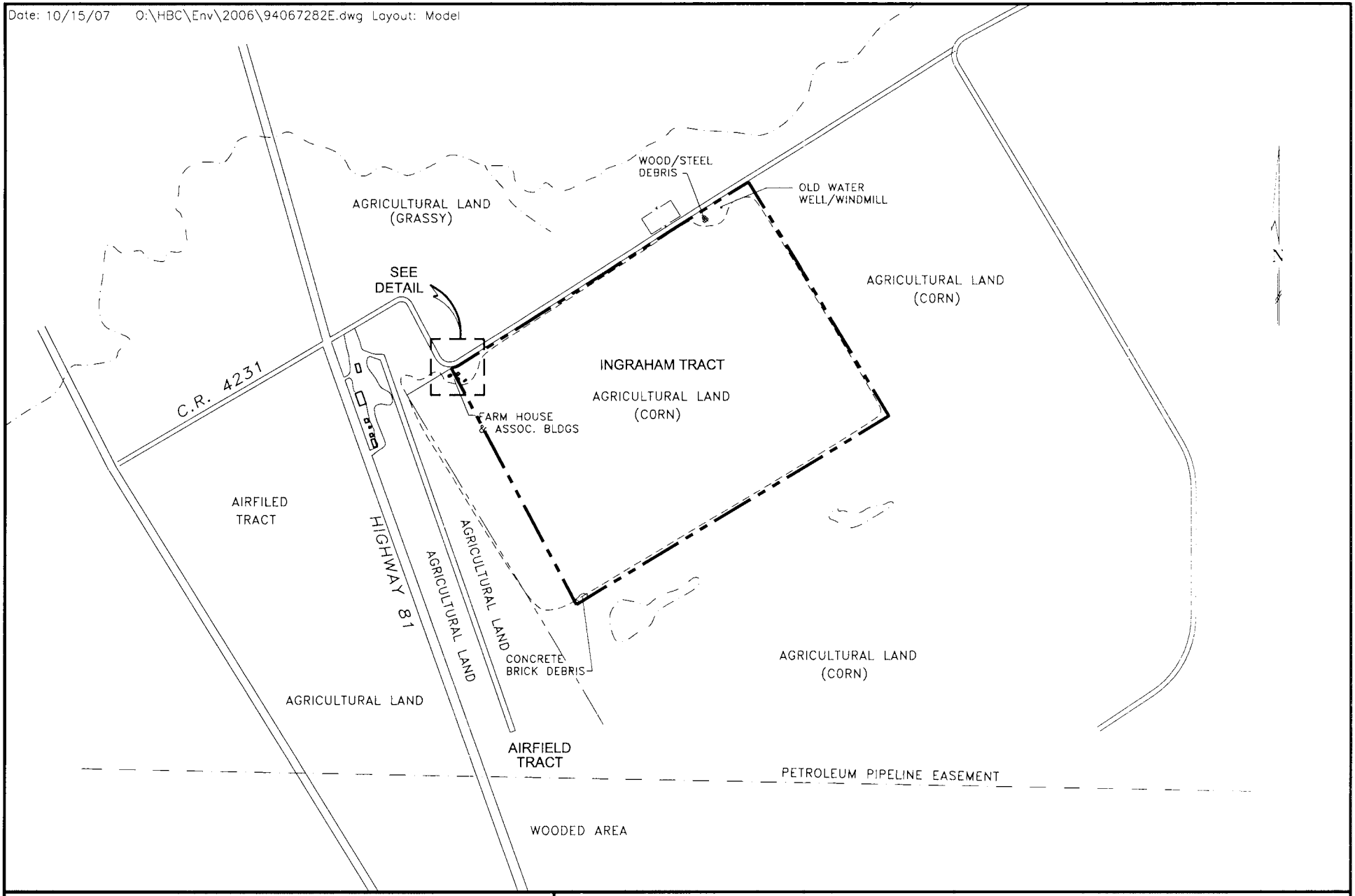
PROJECT NO. 94067282C

N

Terracon

Ingraham Tract
Highway 81 and CR 4231
Hillsboro, Hill County, Texas

FIGURE 1: TOPOGRAPHIC MAP



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0 600 1200 FEET

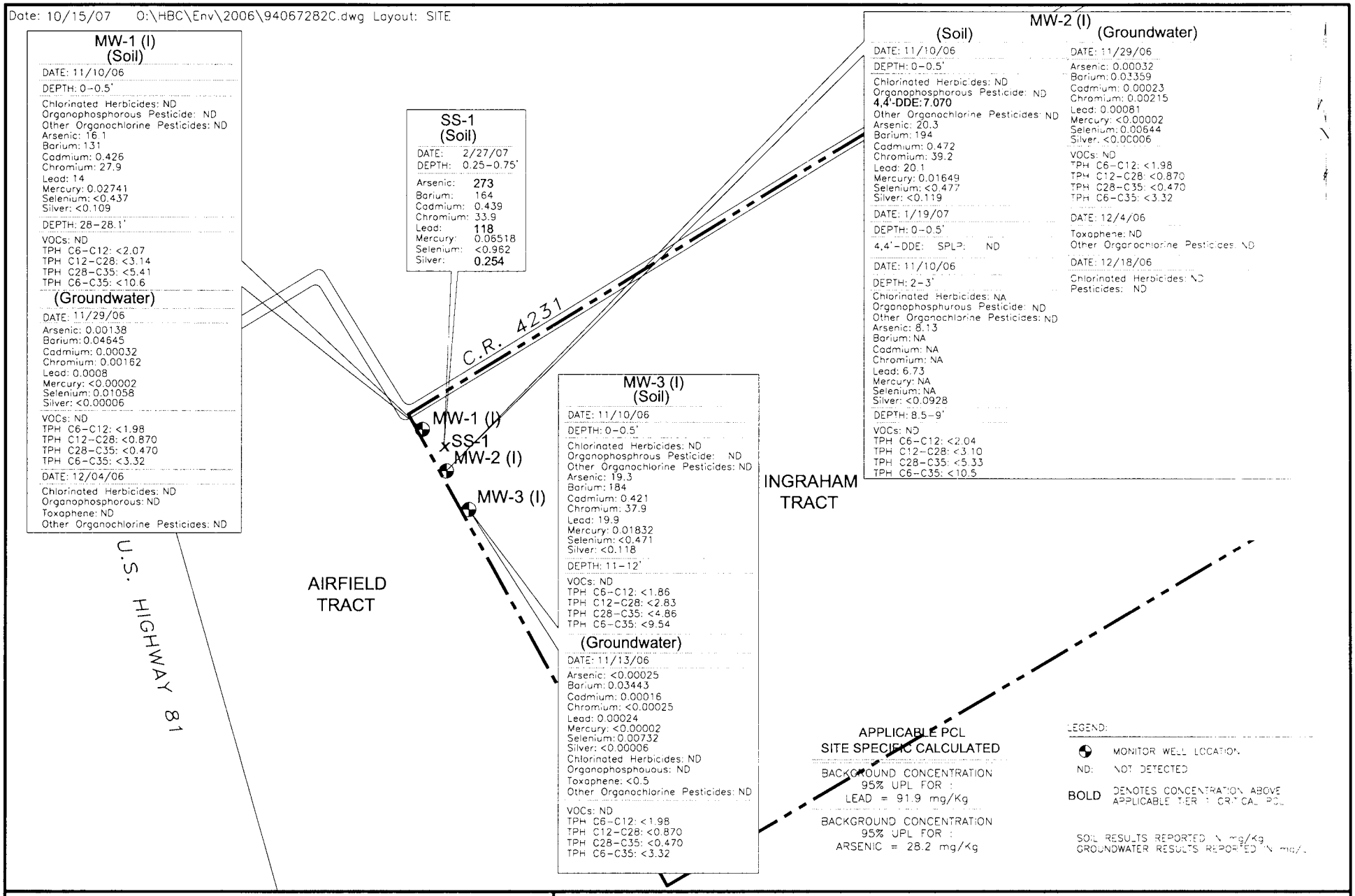
APPROXIMATE SCALE

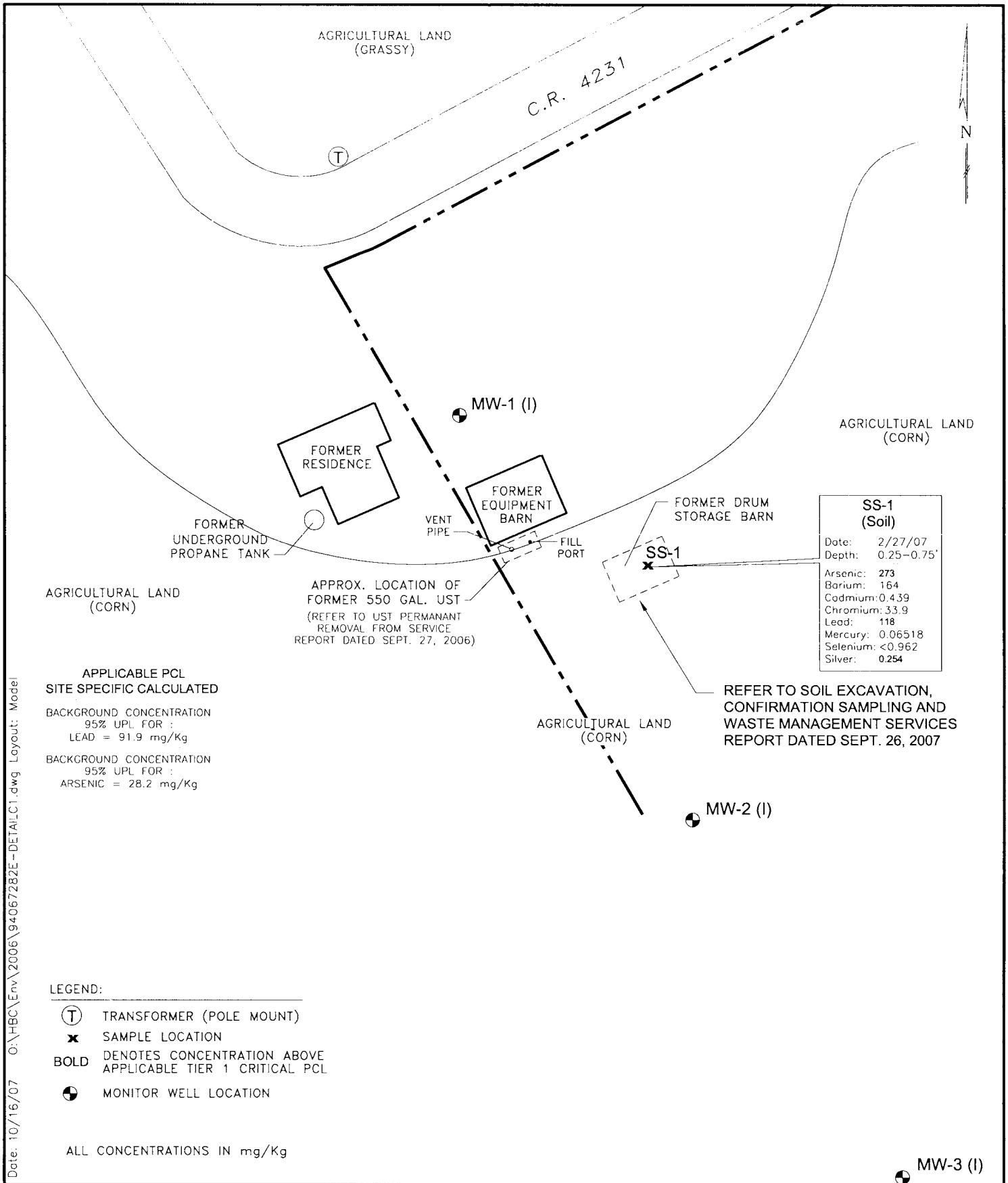
INGRAHAM TRACT

SEQ OF HIGHWAY 81 AND C.R. 4231
HILLSBORO, TEXAS

Terracon **Project No.: 94067282**

FIGURE 2: SITE PLAN


Date: 10/15/07 O:\HBC\Env\2006\94067282C.dwg Layout: SITE
MW-1 (I)
(Soil)
DATE: 11/10/06
DEPTH: 0-0.5'
Chlorinated Herbicides: ND
Organophosphorous Pesticide: ND
Other Organochlorine Pesticides: ND
Arsenic: 16.1
Barium: 131
Cadmium: 0.426
Chromium: 27.9
Lead: 14
Mercury: 0.02741
Selenium: <0.437
Silver: <0.109
DEPTH: 28-28.1'
VOCs: ND
TPH C6-C12: <2.07
TPH C12-C28: <3.14
TPH C28-C35: <5.41
TPH C6-C35: <10.6
(Groundwater)
DATE: 11/29/06
Arsenic: 0.00138
Barium: 0.04645
Cadmium: 0.00032
Chromium: 0.00162
Lead: 0.0008
Mercury: <0.00002
Selenium: 0.01058
Silver: <0.00006
VOCs: ND
TPH C6-C12: <1.98
TPH C12-C28: <0.870
TPH C28-C35: <0.470
TPH C6-C35: <3.32
DATE: 12/04/06
Chlorinated Herbicides: ND
Organophosphorous: ND
Toxaphene: ND
Other Organochlorine Pesticides: ND
SS-1
(Soil)
DATE: 2/27/07
DEPTH: 0.25-0.75'
Arsenic: 273
Barium: 164
Cadmium: 0.439
Chromium: 33.9
Lead: 118
Mercury: 0.06518
Selenium: <0.962
Silver: 0.254
C.R. 4231
MW-1 (I)
SS-1
MW-2 (I)
MW-3 (I)
MW-3 (I)
(Soil)
DATE: 11/10/06
DEPTH: 0-0.5'
Chlorinated Herbicides: ND
Organophosphrous Pesticide: ND
Other Organochlorine Pesticides: ND
Arsenic: 19.3
Barium: 184
Cadmium: 0.421
Chromium: 37.9
Lead: 19.9
Mercury: 0.01832
Selenium: <0.471
Silver: <0.118
DEPTH: 11-12'
VOCs: ND
TPH C6-C12: <1.86
TPH C12-C28: <2.83
TPH C28-C35: <4.86
TPH C6-C35: <9.54
(Groundwater)
DATE: 11/13/06
Arsenic: <0.00025
Barium: 0.03443
Cadmium: 0.00016
Chromium: <0.00025
Lead: 0.00024
Mercury: <0.00002
Selenium: 0.00732
Silver: <0.00006
Chlorinated Herbicides: ND
Organophosphouous: ND
Toxaphene: <0.5
Other Organochlorine Pesticides: ND
VOCs: ND
TPH C6-C12: <1.98
TPH C12-C28: <0.870
TPH C28-C35: <0.470
TPH C6-C35: <3.32
MW-2 (I)
(Soil)
DATE: 11/10/06
DEPTH: 0-0.5'
Chlorinated Herbicides: ND
Organophosphorous Pesticide: ND
4,4'-DDE: 7.070
Other Organochlorine Pesticides: ND
Arsenic: 20.3
Barium: 194
Cadmium: 0.472
Chromium: 39.2
Lead: 20.1
Mercury: 0.01649
Selenium: <0.477
Silver: <0.119
DATE: 1/19/07
DEPTH: 0-0.5'
4,4'-DDE: SPLP: ND
DATE: 11/10/06
DEPTH: 2-3'
Chlorinated Herbicides: NA
Organophosphurous Pesticide: ND
Other Organochlorine Pesticides: ND
Arsenic: 8.13
Barium: NA
Cadmium: NA
Chromium: NA
Lead: 6.73
Mercury: NA
Selenium: NA
Silver: <0.0928
DEPTH: 8.5-9'
VOCs: ND
TPH C6-C12: <2.04
TPH C12-C28: <3.10
TPH C28-C35: <5.33
TPH C6-C35: <10.5
(Groundwater)
DATE: 11/29/06
Arsenic: 0.00032
Barium: 0.03359
Cadmium: 0.00023
Chromium: 0.00215
Lead: 0.00081
Mercury: <0.00002
Selenium: 0.00644
Silver: <0.00006
VOCs: ND
TPH C6-C12: <1.98
TPH C12-C28: <0.870
TPH C28-C35: <0.470
TPH C6-C35: <3.32
DATE: 12/4/06
Toxaphene: ND
Other Organochlorine Pesticides: ND
DATE: 12/18/06
Chlorinated Herbicides: ND
Pesticides: ND
INGRAHAM TRACT
AIRFIELD TRACT
U.S. HIGHWAY 81
APPLICABLE PCL
SITE SPECIFIC CALCULATED
BACKGROUND CONCENTRATION
95% UPL FOR :
LEAD = 91.9 mg/Kg
BACKGROUND CONCENTRATION
95% UPL FOR :
ARSENIC = 28.2 mg/Kg
LEGEND:
MONITOR WELL LOCATION
ND: NOT DETECTED
BOLD DENOTES CONCENTRATION ABOVE APPLICABLE TIER 1 CRITICAL PCL
SOIL RESULTS REPORTED IN mg/Kg
GROUNDWATER RESULTS REPORTED IN mg/L
THIS DRAWING SHOULD NOT BE USED SEPARATELY FROM ORIGINAL REPORT.
0 300 600 FEET
APPROXIMATE SCALE
INGRAHAM TRACT
STATE HIGHWAY 81 AT CR 4231
HILLSBORO, HILL COUNTY, TEXAS
Terracon Project No.: 94067282C
FIGURE 3A: SITE PLAN WITH SAMPLING RESULTS



Date: 10/16/07 O:\HBC\Env\2006\94067282E-DETAILC1.dwg Layout: Model

THIS DRAWING SHOULD NOT BE USED SEPARATELY FROM ORIGINAL REPORT.

0 30 60 FEET
APPROXIMATE SCALE

INGRAHAM TRACT
SEQ OF HIGHWAY 81 AND C.R. 4231
HILLSBORO, TEXAS

Terracon Project No.: 94067282

FIGURE 3B: FORMER DRUM STORAGE BARN DETAIL

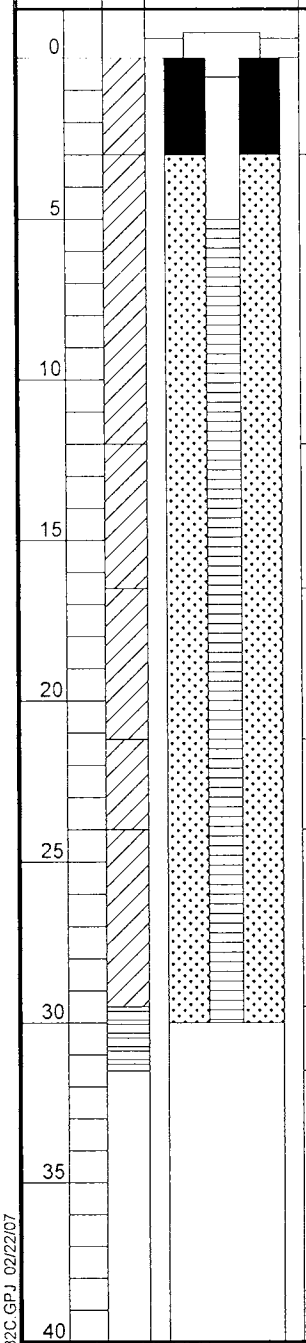
APPENDIX B

Boring Logs

SOIL BORING / MONITORING WELL LOG

PROJECT: INGRAHAM TRACT
PROJECT NUMBER: 94067282C
CLIENT: Hillsboro Economic Development Corp.
BORING / WELL NUMBER: MW-1 (I)
TOTAL DEPTH: 31.5'
TOP OF CASING: Not Determined
FIELD PERSONNEL: S. Fleming

DRILLING COMPANY: Sunbelt Industrial
DRILLER: T. McCullough
DRILLING METHOD: Hollow Stem Auger
BORE HOLE DIAMETER: 8"
SCREEN: Diam. 2.0" Length 5.0" Slot Size 0.010"
CASING: Diam. 2.0" Length 25.0' Type Sch. 40 PVC
DATE DRILLED: 11-10-06



DEPTH (FT)	PID	SAMPLES	SAMPLE INTERVAL	DESCRIPTION INTERVAL	DESCRIPTION OF STRATUM
0	0		0.0		SILTY CLAY, brown, moist, no odor
			0.5		
	0		2.0		
			3.0	3.0	
5	0				SILTY CLAY, yellowish orange, with calcareous nodules (increasing w/depth), dry, no odor
	0				
	0				
	0				
	0				
	0				
10	0				
	0				
	0			12.0	
	0				SILTY CLAY, yellowish orange, with fine gravel, moist, no odor
15	0				
	0				
	0			16.5	
	0				SILTY CLAY, yellowish orange to tan, moist, no odor
	0				
20	0				
	0			21.2	
	0				SILTY CLAY, yellowish orange to tan, with calcite nodules, moist, no odor
	0				
	0			24.0	
25	0				SILTY CLAY, yellowish orange to tan, with numerous calcite nodules, wet, no odor
	0				
	0				
	0		28.0		
	0		28.1		
30	0			29.5	
	0		31.0		SHALE, gray, dry, no odor
	0		31.5	31.5	
35					Bottom of boring at 31.5' bgs
40					

REMARKS:

THIS LOG SHOULD NOT BE USED SEPARATELY FROM THE ORIGINAL REPORT.

Terracon

MWL40 94067282C.GPJ 02/22/07

SOIL BORING / MONITORING WELL LOG

PROJECT: INGRAHAM TRACT
PROJECT NUMBER: 94067282C
CLIENT: Hillsboro Economic Development Corp.
BORING / WELL NUMBER: MW-2 (I)
TOTAL DEPTH: 25.1'
TOP OF CASING: Not Determined
FIELD PERSONNEL: S. Fleming

DRILLING COMPANY: Sunbelt Industrial
DRILLER: T. McCullough
DRILLING METHOD: Hollow Stem Auger
BORE HOLE DIAMETER: 8"
SCREEN: Diam. 2.0" Length 5.0" Slot Size 0.010"
CASING: Diam. 2.0" Length 20.0' Type Sch. 40 PVC
DATE DRILLED: 11-10-06

DEPTH (FT)	SOIL SYMBOL	WELL CONSTRUCTION	PID	SAMPLES	SAMPLE INTERVAL	DESCRIPTION INTERVAL	DESCRIPTION OF STRATUM	DEPTH (FT)
0			0		0.0 0.5	2.0	SILTY CLAY, dark brown, moist, no odor	0
			0		2.0 3.0	3.5	SILTY CLAY, brown, moist, no odor	
5			0 0 0 0 0 0		8.5 9.0	9.0	SILTY CLAY, yellowish orange, with calcareous nodules (increasing w/depth), dry, no odor	5
10			0 0 0			12.0	SILTY CLAY, tan, with fine gravels, wet, no odor	10
			0 0			14.0	SILTY CLAY, tan, with fine gravels, wet, no odor	
15			0 0			16.0	SILTY CLAY, tan, wet, no odor	15
20			0 0 0 0 0 0 0 0			24.0	SILTY CLAY, light brown to tan, wet, no odor	20
25			0		25.0 25.1	25.0	SHALE, gray, dry, no odor Bottom of boring at 25.0' bgs	25
30								30
35								35
40								40

REMARKS:

THIS LOG SHOULD NOT BE USED SEPARATELY FROM THE ORIGINAL REPORT.

Terracon

MWL40 94067282C.GPJ 02/22/07

SOIL BORING / MONITORING WELL LOG

PROJECT: INGRAHAM TRACT
PROJECT NUMBER: 94067282C
CLIENT: Hillsboro Economic Development Corp.
BORING / WELL NUMBER: MW-3 (I)
TOTAL DEPTH: 30.1'
TOP OF CASING: Not Determined
FIELD PERSONNEL: S. Fleming

DRILLING COMPANY: Sunbelt Industrial
DRILLER: T. McCullough
DRILLING METHOD: Hollow Stem Auger
BORE HOLE DIAMETER: 8"
SCREEN: Diam. 2.0" Length 5.0" Slot Size 0.010"
CASING: Diam. 2.0" Length 25.0' Type Sch. 40 PVC
DATE DRILLED: 11-10-06

DEPTH (FT)	SOIL SYMBOL	WELL CONSTRUCTION	PID	SAMPLES	SAMPLE INTERVAL	DESCRIPTION INTERVAL	DESCRIPTION OF STRATUM	DEPTH (FT)
0			0		0.0		CLAYEY SILT, dark brown, damp, no odor	0
					0.5			
			0		2.0	2.5		
			0		3.0		CLAYEY SILT, brown, with calcareous nodules (increasing w/depth), dry, no odor	
5			0					5
			0					
			0					
			0					
			0					
10			0			10.0		10
			0		11.0		CLAYEY SILT, brown, damp to wet, no odor	
			0		12.0	12.0		
			0				CLAYEY SILT, orange to tan, damp to wet, no odor	
15			0					15
			0					
			0					
			0					
			0					
20			0					20
			0					
			0					
			0					
			0					
25			0			25.0		25
			0				SHALE, gray, dry, no odor	
			0					
			0					
			0					
30			0		30.0	30.0		30
			0		30.1		Bottom of boring at 30.0' bgs	
35								35
40								40

REMARKS:

THIS LOG SHOULD NOT BE USED SEPARATELY FROM THE ORIGINAL REPORT.

Terracon

MW-40 94067282C.GPJ 02/22/07

APPENDIX C

Tables

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS - VOCs (8260B) and TPH (1005)
Ingraham Tract
State Highway 81 @ CR 4231
Hillsboro, Hill County, Texas
Terracon Project No. 94067282C

Sample I.D.	Sample Depth (ft bgs)	Sample Date	VOCs[1] (mg/Kg)	TPH (TX1005 Rev. 3) (mg/Kg)			
				C6-C12	>C12-C28	>C28-C35	C6-C35
SS-1	0.25-0.75	2/27/07	ND	<2.16	<3.28	<5.64	<11.1
MW-1(I)	28.0-28.1	11/10/06	ND	<2.07	<3.14	<5.41	<10.6
MW-2(I)	8.5-9.0	11/10/06	ND	<2.04	<3.10	<5.33	<10.5
MW-3(I)	11.0-12.0	11/10/06	ND	<1.86	<2.83	<4.86	<9.54
Texas Risk Reduction Program Tier 1 Critical Residential Soil PCLs (30-Acre Source Area)			--	*Carbon-Range Specific*			

ND = Constituents were not detected above laboratory SQLs.

1. Only those constituents detected above the sample quantitation limit are reported.

TABLE 2
SOIL SAMPLE ANALYTICAL RESULTS
Chlorinated Herbicides (8151A), Organochlorine Pesticides (8081A) and Organophosphorous Pesticides (8141A)
Ingraham Tract
State Highway 81 @ CR 4231
Hillsboro, Hill County, Texas
Terracon Project No. 94067282C

Sample I.D.	Sample Depth (ft bgs)	Sample Date	Chlorinated Herbicides (8151A) (mg/Kg)	Organochlorine Pesticides (8081A)[1] (mg/Kg)	Organophosphorous Pest (8141A) (mg/Kg)
SS-1	0.25-0.75	2/27/07	ND	Gammas-Chlordane - 0.00308 4,4'-DDE - 0.0422 4,4'-DDT - 0.0535 Heptachlor Epoxide - 0.00322	ND
MW-1(I)	0.0-0.5	11/10/06	ND	ND	ND
MW-2(I)	0.0-0.5	11/10/06	ND	**4,4'-DDE - 7.07**	ND
	0.0-0.5	1/19/07	NA	4.4'-DDE using SPLP - ND	NA
	2.0-3.0	11/10/06	NA	ND	NA
MW-3(I)	0.0-0.5	11/10/06	ND	ND	ND
Texas Risk Reduction Program Tier 1 $^{Tot}Soil_{Comb}$ Residential Soil PCLs (30-Acre Source Area)			--	Gammas-chlordane - 7.3 DDE - 10 DDT -5.4 Heptachlor Epoxide - 0.029	--
Texas Risk Reduction Program Tier 1 $^{GW}Soil_{Ing}$ Residential Soil PCLs (30-Acre Source Area)			--	Gammas-chlordane - 21 DDE - 5.9 DDT - 7.4 Heptachlor Epoxide - 0.24	--

NA = Not analyzed for this constituent.

ND = Constituents were not detected above laboratory SQLs. Refer to the laboratory sheets for specific list of constituents.

j = The value is above the method detection limit but below the reporting limit.

1. Only those constituents detected above the sample quantitation limit are reported.

Bold denotes concentrations that exceed the applicable critical PCL.

Table 3
SOIL SAMPLE ANALYTICAL RESULTS - METALS
Ingraham Tract
State Highway 81 @ CR 4231
Hillsboro, Hill County, Texas
Terracon Project No. 94067282C

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Arsenic (mg/Kg)	Barium (mg/Kg)	Cadmium (mg/Kg)	Chromium (mg/Kg)	Lead (mg/Kg)	Mercury (mg/Kg)	Selenium (mg/Kg)	Silver (mg/Kg)
SS-1	2/27/07	0.25-0.75	**273**	164	0.439	33.9	**118**	0.06518	<0.962	**0.254**
MW-1(I)	11/10/06	0.0-0.5	16.1	131	0.426 (j)	27.9	14.0	0.02741	<0.437	<0.109
MW-2(I)	11/10/06	0.0-0.5	20.3	194	0.472 (j)	39.2	20.1	0.01649	<0.477	<0.119
	11/10/06	2.0-3.0	8.13	NA	NA	NA	6.73	NA	NA	<0.0928
MW-3(I)	11/10/06	0.0-0.5	19.3	184	0.421 (j)	37.9	19.9	0.01832	<0.471	<0.118
Texas Risk Reduction Program Tier 1 $^{Tot}Soil_{Comb}$ Residential Soil PCLs (30-Acre Source Area)			*24*	*7,800*	*52*	*23,000*	*500*	*2.1*	*310*	*95*
Texas Risk Reduction Program Tier 1 $^{GW}Soil_{Ing}$ Residential Soil PCLs (30-Acre Source Area)			*2.5*	*220*	*0.75*	*1,200*	*1.5*	*0.0039*	*1.1*	*0.24*
Texas Risk Reduction Program Tier 1 $^{Tot}Soil_{Comb}$ Commercial Soil PCLs (30-Acre Source Area)			*200*	*89,000*	*850*	*57,000*	*1,600*	*3.3*	*4,700*	*1,700*
Texas Risk Reduction Program Tier 1 $^{GW}Soil_{Ing}$ Commercial Soil PCLs (30-Acre Source Area)			*2.5*	*220*	*0.75*	*1,200*	*1.5*	*0.0039*	*1.1*	*0.71*
Texas-Specific Background Concentration (TSBC)			*5.9*	*300*	*NE*	*30*	*15*	*0.04*	*0.3*	*NE*
Site Specific Calculated Background Concentration 95% UPL			*28.2*	*ND*	*ND*	*ND*	*91.9*	*ND*	*ND*	*ND*

NA = Not analyzed for this constituent
ND = Not Determined
NE = Not established
j = The value is above the method detection limit but below the reporting limit.

TABLE 4
GROUNDWATER SAMPLE ANALYTICAL RESULTS - VOCs (8260B) and TPH (1005)
Ingraham Tract
State Highway 81 @ CR 4231
Hillsboro, Hill County, Texas
Terracon Project No. 94067282C

Sample I.D.	Sample Date	VOCs[1] (mg/L)	TPH (TX1005 Rev. 3) (mg/L)			
			C6-C12	>C12-C28	>C28-C35	C6-C35
MW-1(I)	11/29/06	ND	<1.98	<0.870	<0.470	<3.32
MW-2(I)	11/29/06	ND	<1.98	<0.870	<0.470	<3.32
MW-3(I)	11/13/06	ND	<1.98	<0.87	<0.47	<3.32
Texas Risk Reduction Program Tier 1 Critical Residential Groundwater PCLs (Class I)		*cis-1,2-Dichloroethene - 0.07* *trans-1,2-Dichloroethene - 0.1* *Tetrachloroethene - 0.005* *Trichloroethene - 0.005*	*Carbon-Range Specific*			
Texas Risk Reduction Program Tier 1 Critical Commercial Groundwater PCLs (Class I)		*cis-1,2-Dichloroethene - 0.07* *trans-1,2-Dichloroethene - 0.1* *Tetrachloroethene - 0.005* *Trichloroethene - 0.005*	*Carbon-Range Specific*			

NA = Not analyzed for this constituent.

ND = Constituents were not detected above laboratory SQLs.

1. Only those constituents detected above the sample quantitation limit are reported.

TABLE 5
GROUNDWATER SAMPLE ANALYTICAL RESULTS
Chlorinated Herbicides (8151A),Organochlorine Pesticides (8081A) and Organophosphorous Pesticides (8141A)
Ingraham Tract
State Highway 81 @ CR 4231
Hillsboro, Hill County, Texas
Terracon Project No. 94067282C

Sample I.D.	Sample Date	Chlorinated Herbicides (8151A) (mg/L)	Organochlorine Pest (8081A)[1] (mg/L)	Organophosphorous Pest (8141A) (mg/L)
MW-1(I)	12/04/06	ND	ND	ND
MW-2(I)	12/18/06	ND	ND	ND
MW-3(I)	11/13/06	ND	ND	ND
Texas Risk Reduction Program Tier 1 Critical Residential Groundwater PCLs (Class I)		--	--	--

ND = Constituents were not detected above laboratory SQLs. Refer to the laboratory sheets for specific list of constituents.

1. Only those constituents detected above the sample quantitation limit are reported.

TABLE 6
GROUNDWATER SAMPLE ANALYTICAL RESULTS - METALS
Ingraham Tract
State Highway 81 @ CR 4231
Hillsboro, Hill County, Texas
Terracon Project No. 94067282C

Sample I.D.	Sample Date	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)	Silver (mg/L)
MW-1(I)	11/29/06	0.00138	0.04645	0.00032 (j)	0.00162	0.0008	<0.00002	0.01058	<0.00006
MW-2(I)	11/29/06	0.00032 (j)	0.03359	0.00023 (j)	0.00215	0.00081	<0.00002	0.00644	<0.00006
MW-3(I)	11/13/06	<0.00025	0.03443	0.00016 (j)	<0.00025	0.00024 (j)	<0.00002	0.00732	<0.00006
Texas Risk Reduction Program Tier 1 Critical Residential Groundwater PCLs (Class I)		0.01	2.0	0.005	0.10	0.015	0.002	0.05	0.012

j = The value is above the method detection limit but below the reporting limit.